The Builder.

VOL. LIV. No. 2363. SATURDAY, MAY 19, 1888.

ILLUSTRATIONS.

Proposed House at Harrow.—Messrs. Mitchell & Butler, Architects ..... *Double-Page Phototype.*
Graythwaite Hall, Windermere.—Mr. R. Knill Freeman, F.R.I.B.A., Architect ..... *Double-Page Ink-Photo.*
Additions to the Grand Hotel, Eastbourne.—Mr. Morton M. Glover, A.R.I.B.A., Architect ..... *Double-Page Photo-Litho.*
New Buildings, Christ's College, Cambridge.—Mr. J. J. Stevenson, Architect ..... *Single-Page Photo-Litho.*
New Cemetery Chapels, near Accrington.—Mr. Henry Ross, Architect ..... *Single-Page Photo-Litho.*

Blocks in Text.

Diagrams illustrating Mr. H. H. Statham's Lecture on Cornices and String-courses ..... *Page* 357
Memorial Statue in Remenham Churchyard, near Henley-on-Thames.—Mr. Charles W. May, Sculptor 359
Ground-plan of Proposed House at Harrow 359
Mantelpiece and Recess in Drawing-room of a House at Castle Carey 362
Diagram Illustrating Paper on Iron in "The Student's Column" 364

CONTENTS.

Architecture at the Paris Salon 349
The "New Gallery" Exhibition 351
Notes 351
Architecture at the Royal Academy.—III. 353
Blackburn Technical School Competition 354
London Theatres in 1596 355
Cornices and String Courses 356
Association of Municipal and Sanitary Engineers and Surveyors 358
Memorial Statue, Remenham 359
Proposed House at Harrow 359
Graythwaite Hall, Windermere 359
The Grand Hotel, Eastbourne 359
New Building, Christ's College, Cambridge 359
New Cemetery Chapels near Accrington: Church and Clayton-le-Moors Joint Cemetery 360
The New By-Laws of the Institute 360
Exhibition of Works in Wood, Carpenters' Hall 360
The Greek Theatre 361
The Essex County Lunatic Asylum, Brentwood 361
Mantelpiece and Recess in Drawing-room of a House at Castle Carey 362
The Society of Engineers 362
Architectural Societies 363
Architects and their Clients: Alleged Negligence 363
"The Ventilation of Sewers 363
"Blackburn Technical School Competition" 363
Proposed Restoration of Barfreston Church 363
Iron Buildings at the Anglo-Danish Exhibition 364
The Student's Column: Iron 364
Recent Patents 364
Recent Sales of Property 364
Meetings 365
Miscellanea 365
Liverpool Engineering Society 365
Civil and Mechanical Engineers' Society 365
Prices Current of Materials 366

Architecture at the Paris Salon.

TWO rooms at the east end of the Palais d'Industrie, and the corresponding portion of the gallery over it, is the limited space annually set apart for architecture at the *Salon* exhibitions. The general arrangement of the drawings alters little, and in general the works of the students of the Académie de France at Rome attract the chief notice. As sketches abroad and studies of restorations also occupy some space, there is not very much left for practical architecture dealing with the requirements of modern life.

There are nevertheless, in this last-named class, some works of great interest, and which exhibit the special capacity of their authors in dealing with architectural problems of the present day; and it is in these that, in fact, the chief interest of the architectural rooms consists. The numerous frames of drawings sent from the Villa Medici exhibit, it is true, beautiful and finished drawings, and great knowledge of ancient art, but their interest is of a very speculative character. Thanks to the strict course of study of the École, it is easy to raise again the ruins, about which the learned architectural world of France has never ceased to occupy itself, to reconstruct an *ensemble* of palaces, porticoes, and temples, which the imagination of the artist peoples with a crowd of statues and adorns at his pleasure, though in accordance with precedent and precept; but it is only a kind of gymnastic exercise of the taste, with little practical result, and it may be doubted whether this kind of academical exercise is the best preparation for coping with the practical difficulties of designing and carrying out a modern theatre, hospital, or even a private residence, or whether promenades among the ruins of Rome predispose the student for the encounter of the difficulties, annoyances, and anxieties inseparable from actual practice.

Apart from these considerations, it would be very unjust to refuse frank admiration to such drawings, for instance, as those of MM. Deglane and Girault. The first exhibits a restoration of the Palace of the Cæsars on the Palatine. Among ten frames containing illustrations of this project, we may particularly remark on the longitudinal section showing the Palace of Domitian restored, the drawing of the "Area Palatina," surrounded by porticoes and the staircase leading to the temple of Jupiter Stator, the House of Augustus, and the Temple of Apollo, the Stadium of Domitian, and the long row of porticoes decorated with statues which leads to the terrace. This collection of restorations shows a great deal of learning, with great precision of drawing, but in a rather hard dry style, without the fine effect of colour which was such an attraction, two years ago, in the somewhat similar studies of M. Lalou. M. Girault's restoration of Hadrian's Villa is also a very curious and interesting piece of work, showing very careful study; and the two views of the actual state of the ruins are admirable water-colour drawings from an artistic point of view, besides their interest as representations.

With all respect to the young architects who are anxious to prove that their time and the money entrusted to them as travelling funds has not been wasted, we must say that their notes and sketches *en route*, and the frames in which they are exhibited, assume every year more and more alarming proportions. Many of them, no doubt, are very agreeable sketches, and have been a salutary exercise to the eye and hand of the executant, but surely a selection might be made out of the number,—at all events, in the direction of limiting them to purely architectural subjects. This year, landscape really predominates among these architects' sketches, many of which ought properly to find place in another department of the *Salon*. In saying this we by no means ignore the charming quality of M. Ghesquier's sketches, which show the temperament of a decorative painter, and in which the details are given with minute exactitude. Among the number may be particularly mentioned the views of the Alhambra and of the Mosque at Cordova, and a drawing of the interior of St. Mark's, Venice, which is, however, much less warm and luminous in colour than the nearly identical view exhibited by M. Blavette, who shows himself more and more as a colourist of great power and brilliancy. The pen-and-crayon sketches of M. Girault are exceedingly amusing. M. Lachouque has brought from Tunisia two large frames, containing no fewer than thirty-two sketches, very pure in colour, and with strong local character in them. M. Landry's numerous sketches are rather careless in style, with the exceptions of his drawings of Lucca della Robbia ware from Florence; and the same criticism applies to those of M. Normand, who for some years has made a special feature of the study of old French provincial architecture, but who does not seem to master his subjects sufficiently or draw them with conscientious care. We mention among this class of works a pretty drawing of the baptistery of Louis XIII. at Fontainebleau, by M. Villevieille; and some charming sketches made by M. Tavernier in Provence and Italy.

The studies of Mediæval and Renaissance work are of considerable interest. There is a fine water-colour drawing, by M. Bonnier, representing the ruins of the Abbey Church of St. Amand. M. Gonvers has collected in one frame sketches of the principal churches of Dieppe. The light and rapid water-colour sketches are supplemented by pen-drawings; they are very correct and precise as representations, and the delicate and elaborate detail of the Église St. Jacques, Notre Dame d'Arc, and St. Rémy is well indicated. The studies of Roman architecture in Poitou by M. Libaudière are very conscientiously executed; and equally interesting are the studies by M. Vesly of capitals from the Abbey Church of Boucherville. M. Redou, besides some drawings of the atrium of the house of Rufus at Pompeii, exhibits some remarkable studies of Renaissance architecture, especially one of the tomb of Paola Malatesta.

The subject of this last drawing leads us to speak of designs for monumental or funeral architecture. This branch of architectural design is brilliantly represented by M. Paul Esquié, in the tomb of M. Zarifi at Constantinople, a very original construction, in a style in which Oriental and Byzantine elements are mixed, with figures in more modern or Western style. The monument stands on the shore of the Bosphorus. M. Jacques Lequeux exhibits the design for the monument of the Comte de Chambord, which is to be erected at St. Anne d'Auray, amid the loyal and royalist population of Brittany. This project, which we shall come across afterwards among the sculpture, comprises a large surbase, supporting a rectangular pedestal, with bronze statues at the four corners. Above is the statue of the Prince, kneeling and praying, with hands joined. M. Bartholdi has not been fortunate in the conception of his very mediocre monument to Paul Bert, which is to be erected at Auxerre. It is heavy, and devoid of character. Among works of monumental architecture are the drawings of a good many designs which are in process of execution. Among these is a design for a fountain, which is to be raised at Ancenis (lower Loire), from the designs of M. Monnier, the Secretary of

the Société Centrale des Architectes. It is composed of a quadrangular basin, raised on three steps, and decorated at the four corners with garlands and escutcheons, supported by figures of children seated on the margin of the basin. From the middle of the basin rises a group of rocks, serving as a pedestal for a statue of the poet Bellay. This statue is to be executed by M. Léofanti. The design by M. Geisse, for the covered gallery, with stairs, to connect the Gare de Pau with the Place Royale, is sufficiently decorative, but rather complicated and pretentious.

We have already spoken of the *maison de retraite* founded at Neuilly-sur-Seine by the brothers Galignani. MM. Delaage and Véra have been commissioned by the "Assistance Publique" to carry out the building, the plans of which are well conceived and in details of arrangement very carefully studied. The principal façade, in a very sober style, shows at the back of a large square courtyard a façade surmounted by a clock tower; the central pavilion has a verandah in front, under which are placed busts of the two donors, executed by M. Jules Thomas. The two side wings enclose the courtyard and run up to the road, where they end in pavilions partially united across the front of the courtyard by the gateway and its adjuncts. Nothing has been sacrificed to show; it is essentially a practical construction, well designed for its purpose, and creditable both to its two architects and to the Hospital Administration.

M. Héneux, whose Mairie at Lilas we illustrated lately, exhibits a fine design for a Blind Asylum, the first building of this class which he has been called on to design. The plan seems to have received very careful attention. The buildings are large, well ventilated, and the tiled façades are pleasing in appearance.

Among some designs for intended new mairies, we need only mention the one by M. Rouger, a very elegant though rather over-ornamented design. Among other designs for official buildings we may mention also the Musée de Laval by M. Ridel, the design for a National Library for Athens, prepared by M. Moussis, and the interesting drawings exhibited by M. Roussi, of a firemen's barracks recently completed in Paris: a very good specimen of what may be called, or classed with, military architecture.

The new design for the Municipal Theatre at Tours, which M. Hardron has raised from its ashes, is a good one, the principal façade, perhaps, rather overweighted by the heavy design of the first-floor story; but the interior is spacious, convenient, and well designed, and a grand staircase, evidently inspired by that of the Paris Opera, leads to the different floors. M. Reigney exhibits a design for the reconstruction of the Opéra Comique on its former site, with a façade towards the Boulevard des Italiens,—a design which does not attract us very much; nor that of M. Schmitt, who wishes to transform the existing Salle of the Eden Theatre into a theatre specially adapted for opera. The Casino for Boulogne, exhibited by M. Gonvers, is in a light and graceful style, quite suitable for its situation and purpose.

In the department of civil architecture, scholastic buildings have for some years been objects of great anxiety to the municipalities. Great sacrifices have been made everywhere with the object of erecting first-class school buildings, and the Municipality of Paris has set the example in this respect, and given the impetus to school building which is going on all over the country. The École Normale d'Institutrices at Auxerre is from the designs of M. Breasson, who exhibits his plans and elevations. M. Touzet exhibits the drawings for the Primary and Professional School for Rouen,—a remarkable set of drawings, but executed with an intensity of colour which is rather overdone. The workshops for ironwork and forging are very large, the amphitheatre convenient and well lighted; the drawing school is also very well adapted for its purpose.

The Lycée Racine, designed by M. M. P. Gout, which has been recently built in the Rue de Roches at Paris, deserves special mention. This is a school for young girls, with a well-designed façade with pretty decorative detail of a Romanesque character, and an imposing principal staircase. The Plans and Designs of the Girls' School by M. David, in the Rue Dauphine at Havre, should also be mentioned, and the design for a group of School Buildings at Garenne de Colombes, by MM. Chaize and Albert and M. Paul Leseine.

The division of artistic labour which has been recently made at the Hôtel de Ville gives special interest to the exhibits of MM. Deperthes and Guifard. The first, who was the colleague and associate of Ballu, sends the design with which he has been commissioned, concurrently with M. Formigé, for the decoration of the grand staircases. It is to be regretted that some unnecessary scruples have prevented M. Forgmigé from sending his design also for exhibition. It would have been interesting to compare the two schemes, quite opposed in principle, but both showing great ability. Both, we may mention, include figures, but in that of M. Deperthes the part played by architecture is the more important, and the colour element is mostly supplied by marbles, gold grounds, and mosaics. M. Formigé, on the contrary, employs no special materials, and has given a large space in his scheme (which we have had an opportunity of seeing) to allegorical paintings combined with arabesques in low tones, leaving the rooms themselves to furnish the climax of the colour scheme. The Committee of the Hôtel de Ville decoration, in confiding to M. Merson the general direction of this decoration, has practically rendered inevitable the acceptance of M. Formigé's design; but it is not denied that M. Deperthes' is a piece of truly artistic work, but somewhat too cold and formal to harmonise with the general revel of colour and luxurious design in the interior of the Hôtel de Ville.

M. Guifard, one of the best pupils of M. Denuelle, exhibits a fragment of the ceiling designs for one of the three arcaded saloons. This piece of decoration will serve as a framework for the allegorical paintings of MM. Besnard, Bonnat, and Lefebvre. It was a mistake to have made this decorative design in advance,—though that is not the fault of M. Guifard, who only followed official instructions; but decorative design of this kind should always be subordinate to the pictures with which it is connected, and be designed in reference to them. We may mention also a design of a similar class exhibited by M. Campan, an "encadrement" for the paintings to be executed by M. Henri Lévy, on the ceilings of the Salle des Fetes, in the Mairie of the Sixth Arrondissement.

Now that France also is coming into the fashion of Renaissance of the architecture of the past, and the architecture of private houses aspires to reproduce that of the Middle Ages or the Renaissance, the drawings illustrating the restoration of some of the old historic châteaux constitute one of the most interesting departments of the *Salon* architectural exhibition. The drawings by M. Boitte are particularly remarkable in this respect. His restoration of the Château de Fère-en-Tardenois (Aisne) is conceived in a noble style. The restoration of a house of the sixteenth century at Rouen, by M. Laquerrière, is a fine and carefully-studied piece of work. We may notice also the restoration of the Château de Rilly, by M. Lafargue, and that of the Château du Val des Écoliers, by M. Petitgrand. The restoration of the curious tower of the Hôtel Cloche-perse, at Rheims, is a water-colour drawing by M. Herbé, very finely finished and full of details, designed with scrupulous fidelity.

The part played in the exhibition of this year by modern house architecture is greater in proportion to the other exhibits than in previous years. The exhibits in this category are numerous, and we can mention only the principal ones, commencing by a series of studies in interior decoration, made by M. Sandier for the *Revue Illustrée*. These projects are ingenious, but they are deficient in simplicity, and the "comfortable" is too much sacrificed to fancy and to the "Japonaiseries," which are so much in fashion at present. The Châlet built at St. Germain-en-Laye, by M. Léon Carle, has a very pleasing effect, well illustrated with a large and fine water-colour drawing. The interior design, in the Henri II. style, is original and sumptuous; the dining-room and drawing-room are decorated with monumental chimneypiece designs in a good style.

The Hôtel de Voyageurs, which MM. Farge and Wulliam propose to build at Aix-le-Bains, is an immense caravanserai, very well planned, with a grand central hall, which can on occasion serve as a ball-room, and communicating with the railway station by a glazed corridor. M. Tubeuf's design for the Château de Valoré is rather disfigured by some details which are not in accordance with its prevailing Renaissance style; it is generally, too, rather over-charged with ornament, though an elegant building in its main design. The studies of M. Gabriel Ruprich-Robert on the system of construction in "pans de bois" in use in Normandy, and especially in the Calvados district, are extremely interesting. As to the water-colour drawings by M. Robert de Massy, they do not, let us hope, lay claim to any architectonic pretension; they are pleasant enough fancies to note in passing. On the other hand, there is a really fine and dignified piece of architectural treatment in the design by M. René Moreau for the Château de la R——, near Moulins. Nor let us omit a picturesque group of villas designed by M. Déchard for a site on the margin of the Lower Seine at Veules.

In this hasty promenade of the architectural room at the *Salon* we have reserved to the last certain eccentric "*projets*" which belong to the domain of fantasy, pure and simple. Such is, for instance, "Palais de la Pensée" which M. Lepouzé wishes to build on the site of the ruins of the Tuileries, a hash-up of the Église St. Augustin, the Trocadéro Palace, and various other buildings, which are pleasantly united into such an *ensemble* as we may leave the reader to imagine. Such is also the "Palais de l'Enfance," which M. Carrier has presented to the Committee of the 1889 Exhibition, and which was rejected by them though exhibited here. Such is also the commemorative monument of the said Exhibition which M. Jay would like to erect, as if the monstrous Eiffel tower would not suffice to raise to the clouds the fame of this national souvenir. It is also among the category of inutilities that we must class the monument proposed by M. Allar for the glorification of the Suez Canal, in which a circular colonnade, united by two great arches each surmounted by a lighthouse, is to form an architectural setting for a statue of M. de Lesseps! The passenger-refuge designed by M. Chevallier, which, however, will not be executed, is the only truly practical scheme in this portion of the collection, as it would enable foot passengers to cross in safety the entanglement of carriages in the Boulevard des Italiens. This proposal, often brought forward, and much needed, has somehow or other always encountered determined opposition from the city administration.

We have as shortly as possible given a review of the contents of the architectural room of the *Salon* of 1888, to which we may still apply the same formula as to that of 1887: with the exception of some original restorations, a few interesting designs and some pretty water-colours, the majority of the works exhibited do not pass beyond the line of honourable mediocrity. We may add that what characterises the present exhibition is the diminution in the number of purely archæological works and a slight increase in the proportion of practical designs for modern architecture. It is to be hoped the exhibiting architects will persevere further in this direction, and devote their talents and experience to the improvement of the illustration of modern buildings.

The Printing Works of the Tonic Sol-Fa Press, Plaistow, belonging to Messrs. J. Curwen & Sons, are about to be enlarged and altered, from designs and under the superintendence of Messrs. T. Lewis Banks & T. Locke Worthington.

THE "NEW GALLERY" EXHIBITION.

A FURTHER examination of the pictures at the Gallery in Regent-street shows that this is a very high-class exhibition. There are some paintings there that one may dislike in regard to their methods and aim: there are very few indeed that have not an interest of their own and a definite claim to be hung and examined. This select quality of the pictures is the more felt on coming from the Royal Academy, where the walls are lined with a crowd of paintings such as the most ready expert in picture-gallery visiting cannot undertake to go through, and many of which consist of such purely perfunctory work. At the New Gallery, as at the original "Grosvenor," which it now represents, the walls are not overcrowded; the pictures are more or less grouped, and can be studied without that dazed sense of exhaustion to the eye and mind which the indiscriminate crowd of canvasses at the Academy produces on the spectator.

Mr. Burne Jones holds the central place in the first or west gallery, with three large pictures, two of them among the best work he has produced. These two, "The Rock of Doom" and "The Doom fulfilled" (53 and 55) belong to that remarkable series of paintings of the legend of Perseus, of which some others have from time to time been seen in the Grosvenor Gallery. As we have said on former occasions, we consider Mr. Burne Jones's style affected and wanting in masculine character, and this applies still to the works now referred to; but they are at least not commonplace in conception or execution, and when he treats a poetic legend he does treat it poetically. How much may be said for him in this respect may be judged by a moment's comparison of these paintings with the detestable piece of vulgarity which the Academy are content to hang as an illustration of the legend of "Niobe." In the first, Andromeda is chained to an upright rock or pillar in the midst of the water: not a Greek maiden of the antique period, certainly. She is Mr. Burne Jones's sentimental Mediæval maiden with sad eyes and without her coloured draperies; but at least she is something more than a nude study from a common model. Perseus comes flying on his winged sandals past the rock, a figure of a rich deep bluish hue in his complete armour, his short sword hanging from his girdle, and turns and sees the victim chained. The colouring of the nude figure is rich and full in tone,—not naturalistic, for this is not the object of the painting, nor is the grey built-up town behind like any kind of real town within historic knowledge, but it harmonises wonderfully with the whole tone and feeling of the picture. In the other painting Andromeda has been unbound, and turns her back from the struggle of her deliverer with the sea-monster. The latter is a masterly conception, no common "dragon," but a thing long, curled, and slimy, a kind of great sea snake, in the folds of which Perseus is partially entangled as he aims for the creature's head with his sword. It is something to see an old subject, so hackneyed by painters, treated with such novel and original conception. Between these two pictures hangs the painting of the building of the brazen tower in which Danaë was to be imprisoned, which we see going on in a courtyard through an open door, beside which Danaë, a thin, sad woman in picturesque flowing robes, looks and muses with apprehension. This painting is more stiff, unreal, and Mediæval than the other two; but the details of the ancient buildings are curiously thought out, and this is perhaps the first time that a painter has taken the legend from this point of view, and endeavoured to indicate how the proposed imprisonment was regarded by the object of it.

In the North Gallery the central work is a remarkable painting by Sir John Millais, under the title "Forlorn" (99). This is a three-quarter length of a grand-looking woman in the most sumptuous crimson and brocade, leaning forward wearily with her elbow on a balustrade; a rich sunset sky forms the background. The sentiment is rather in the whole figure and the accessories than in the face,—and, indeed, Sir John Millais seldom conveys deep feeling in the face of any of his figures; it may be added that he seldom, in these latter days, selects any subject which demands it. As the title and idea of this painting certainly does demand it, there is a slight sense of failure here, but the whole work is impressive, partly from the contrast between the sad title and situation and the rich and regal apparel of the figure. It is a very unusual type of picture as coming from this artist, and would hardly be taken for his on first acquaintance.

In the West Gallery, at the end, is a wonderfully pathetic and intellectual work by Mr. Watts, "The Angel of Death" (30). This is painted in the peculiar rich yet pale tones, if one may so describe them, which characterised his recent painting of "Hope,"—at least, as far as the head and drapery are concerned, for the figure facing us is enclosed between two great dark-plumaged wings, which droop on either side of her. The figure stoops forward, with a sad and tender face, over a little child whom she has just taken to her arms, as if regretting to have to take it. The only thing one can quarrel with is that the flesh-painting of the infant is rather colourless and rough in texture. The composition is grand, and the idea of the picture truly noble and pathetic,—so much so that it seems half-profaned by exhibition in a public gallery.

There is no other figure painting of so lofty a tone as this. Mr. Legros has a painting under the title "Femmes en Prière" (8), which is fine in its almost defiant simplicity of treatment,—a few figures of women kneeling, seen in profile, and with various expressions of not too rapt devotion; but this is rather discounted by the fact that its author exhibited such a very similar work, in motive and composition, in the Grosvenor Gallery some time back; it seems like an old theme repeated. Mr. Hallé exhibits certainly the very best work he has ever painted, a "Paolo and Francesca" (44), at the moment when the guilty book was dropped. It needs a great painter to come up to the pathos of Dante's immortal passage; Mr. Hallé cannot be said to have succeeded, but he has endeavoured after it with some earnestness. Mr. Weguelin's "Bacchus and the Choir of Nymphs" (148) would not have satisfied Horace, who called on posterity to believe his audacious statement that he himself had seen Bacchus "remotis rupibus," "on the remote rocks," teaching the nymphs to sing; for Mr. Weguelin evidently does not believe it. He has painted a large picture with some good nude studies, that is all. It is totally commonplace and academical. Mr. Tadema sends a small collection of pictures; the study for the "Heliogabalus" (132), in which it is noteworthy that the scene is closed in behind instead of giving view into the open air. The grouping of the figures seems more effective (as to the main group) than in the large painting. The main object of the study was evidently the colours of the roses, which are brilliant and glorious. His portrait of a clergyman of the Dutch Church (133), the "Rev. A. D. Adama van Scheltema" (the whole name is too picturesque to omit) is admirable; but his most thorough success in his special line of subject is "He loves me, he loves me not" (131), where two classically-clad women recline on a couch, above which the tops of temples and arches are just seen in the clear air through a space left below the curtain of the window. Every detail of this little painting is finished to perfection. Among the figure paintings should not be forgotten one with a classical name but an unclassical subject, by Mrs. Swynnerton, "Parcæ" (84), a study of three fisher girls in variously coloured dresses netting, with the outlines of a fishing village seen behind, dark against an evening sky; a work curious in its fancy and arrangement, but painted with great power.

Portraits are numerous, and some of them very fine; among the most characteristic is Mr. Richmond's portrait of "Miss Gladstone" (98), painted for Newnham College, and Mr. Herkomer has an admirable one of Mr. Burnand, relieved with great force against a white ground. Sir Jas. Linton's portrait of "Miss Wardour" (142) and Mr. Collier's of "Miss Ethel Huxley" (154) smack somewhat of the old school in their style and dramatic arrangement; in the latter, the lady walks among tall flowering weeds by a pond, with a dark mass of trees on the other side against which her head and figure are relieved; a fine effect, but a little hard in execution and cold in colour. Among landscapes there are many beautiful though mostly small works: among the larger ones is a rich sombre wooded scene by Mr. A. W. Hunt, "Winter's Wreck and Summer's Pride" (57), in his finest style; a far superior work to the rather curious and bewildering picture which he has at the Academy. Mr. North's "Little Bit of Somerset" (4) is a beautiful and tender little painting of the varying tones of gently undulating hills,—a kind of "Faërie Queene" landscape. Mr. Halswelle, we are glad to see, has one landscape, a fine one, in which he has given up his favourite receipt of leaden skies and steel water. "A Pastoral" (34), is a fine broad landscape, with a grand mass of clouds above it. Mr. Mark Fisher, also, in his "Stream that Turns a Mill" (120), has really got some blessed daylight into one of his spring scenes, apparently through the suggestion of the reflected light from the water. Mr. Fisher is a masterly painter of the characteristics of landscape, Spring landscape especially, and with a very fine and original method; but the want of any real effect of light on his landscapes we have always felt; we hope there is to be more of it now. Mr. Peppercorn has given us two very interesting studies of special and unusual effects in his "Winter Evening" (39) and "The Willow Stream" (47); these are studies of evanescent effects under dim light; and in Mr. Arthur Hughes's "The Last of the Snow" (128) may be seen a fine example of the opposite school of realistic treatment of landscape, a remarkable study of the effect of verdure bristling through patches of belated snow.

There is no great work in sculpture at the gallery; the most important in regard to scale is a curious but very clever life-size group in bronze, by Mr. J. W. Swynnerton, entitled "Love's Chalice: a Design for a Fountain" (336). In front of an alcove a nude youth, seated, holds up his two hands as a cup, from which a girl, in a pretty and coquettish attitude, stoops to drink; the alcove, with pilasters and small spandrel figures, makes an architectural background to the group. If we regard it, however, as an actual design for a "practicable" drinking-fountain, the place from which the water should pour, and the receptacle into which it pours, could only be got at by pushing the hand with a cup in between the two figures and under the girl's face, so that the feeling of people who wanted to drink at the fountain would be that these two young persons were very much in the way; the design looks rather ludicrous from a practical point of view. Mr. Hamo Thornycroft sends a small reproduction of his admirable "Mower" (334), and Mr. Harry Bates two small plaster studies, each of two figures, under the title "Peace" and "War" (317, 318), which are very spirited in idea and execution.

It is to be hoped that the spirited policy of Mr. Carr and Mr. Hallé will prove a success in every sense. We certainly have to thank them for a fine picture-gallery, and an effort to keep up the high aims with which the Grosvenor Gallery was originally started.

NOTES.

IT is very satisfactory to find the Railway and Canal Traffic Bill passing the second reading without a division. The few amendments of which notice had been given were not pressed, and there was on the whole a gratifying unanimity as to the provisions of the measure, presenting a strong contrast to the hostility displayed in some quarters upon previous occasions. Sir Michael Hicks Beach now has charge of the Bill, and explained its leading features in a lucid speech, being fol-

lowed by Mr. Mundella, the originator of some of the clauses. Both speakers dwelt somewhat at length upon the "conciliation" clause, which, when first introduced by Mr. Mundella, received but little encouragement, and was at one time quietly dropped out altogether. The plan was avowedly borrowed from the Americans, and a report from the Inter-State Commissioners shows that it has proved eminently successful in the States. The clause aims, of course, at substituting arbitration for litigation when practicable, through the mediation of the Board of Trade; and the Inter-State Commissioners say that "this method of disposing of complaints is believed to be more useful than any other, because its tendency is towards the establishment of desirable relations between the carriers and those who must be their customers." Mr. J. Bolton, a railway representative, expressed a hope that the clause would be carried, though he was not at all sanguine as to the result. It is well known that the legal profession are inclined to throw cold water on the proposal, but the reason for their attitude in regard to this matter is obvious, and should not stand in the way. Sir Michael Hicks Beach appears to consider it inevitable that terminal charges must be legalised, but remarked that the public are paying these charges at the present time without knowing what they are for. Under the Bill this uncertainty will cease to exist, as the charges will have to be fully explained; and, moreover, they will not receive legal sanction until all representations made by interested parties have received due consideration. The *Times* remarks that "there is nothing unreasonable in a charge for terminals, which is a charge for the cost of handling and delivering goods at the station to which they are consigned, if the charge is no more than a fair remuneration for services rendered." But the fact is that a number of items of "station accommodation," quite distinct from anything of the nature of "handling," are charged for in addition, and it is respecting these imposts that so many complaints are made. With regard to preferential rates, the Government exhibit a commendable anxiety to avoid steering us into "dangers that we know not of," being fully alive to the risk involved in fettering the railway companies by drawing too hard and fast a line in this matter. At the same time, recognised grievances must no longer remain unredressed, and the House seems to be approaching the subject in a spirit which promises the best results. No one expects the Bill to provide a complete solution of all railway difficulties, and, as the President of the Board of Trade remarked, it would be tantamount to postponing railway legislation altogether if such a Bill were to be waited for.

AT the discussion of the Report of the Council of the Institute of Architects, at the annual general meeting on the 7th of May, Mr. Cavendish Bentinck, an Honorary Associate of the Institute, proposed as an amendment the insertion of a paragraph to the effect "that the Council regret that the Art Committee should have taken no cognisance of the erection of a solid marble altar-screen across the choir of St. Paul's Cathedral, and that they should have failed to enter a protest against a structural alteration of the church which is absolutely at variance with the designs and intentions of Sir Christopher Wren." This amendment, in deference to the expressed opinions of some members present, Mr. Bentinck ultimately withdrew; and rightly so. We are not at variance with the opinion expressed; on the contrary, it seems to us perfectly extraordinary that any architect should have deliberately placed what amounts to a second apsidal termination of the building within the existing apse, and should not have perceived that the very fact of the cathedral having an apsidal termination renders the semicircular plan of the reredos completely out of place, the two circles clashing with each other, and leaving a useless and unsightly irregular space between them which is practically cut out of the length of the choir. What the situation demanded was a straight-lined reredos on the chord of the apse, and so designed as to let the apse and its windows show through or over it. But the Art Committee, equally with ourselves, was precluded from protesting at the proper time, by the close secrecy which was purposely maintained as to what was being done; and to protest now would do no good, as so costly a work is not likely to be removed for any representation, and to protest at once against the completed work of architects who are not members of the Institute would only be to create needless and useless ill-feeling and expose the procedure of the Institute to uncharitable misrepresentation. But Mr. Bentinck's further remarks as to the wretched system by which the control of public works is placed in the hands of a succession of First Commissioners appointed mainly for political reasons, and at any rate (as it would appear) for any other cause rather than their knowledge of architecture, have our entire sympathy. The conclusion of Mr. Bentinck, that a permanent competent authority should be appointed on the part of the Government to deal with such matters, is one that we have urged over and over again. It is a long time, probably, before we shall get it, in a country where public opinion is so indifferent as to all that concerns architecture; but it is as well that it should be continually urged, in the hope that an impression will be made in time, and Mr. Bentinck did well in bringing the point forward on this occasion.

THE case of Reeve *v.* Berridge, which was recently decided by the Court of Appeal, is one which is worth the attention of buyers and sellers of leasehold property. There is, perhaps, too great a tendency in sellers to believe that the maxim, *caveat emptor*, will protect them under all circumstances. This case shows that the buyer is not quite the defenceless creature which he is often supposed to be. It appears that the plaintiff had an agreement with the owner of property to grant him building leases of various plots of land when the buildings on them were completed. The lessor had, however, obliged the lessee to take the property subject to certain onerous covenants which we need not detail. The plaintiff subsequently agreed to sell one of the houses which had been completed to the defendant, but the latter refused to complete the purchase later on when he discovered the onerous covenants. The question then arose, "how far the mere notice of the lease in the contract, without any opportunity of inspecting it or the agreement for a lease, affects the purchaser with notice of all the contents of that agreement." The Court of Appeal decided that the buyer was entitled to receive accurate information from the seller as to the nature of these covenants, and that, not having received it, he was not bound to complete his purchase. The moral of this case clearly is, that sellers of leasehold property must be frank, and give full information to would-be purchasers.

THE Italian Exhibition, opened at West Brompton on Saturday last, in the buildings and grounds occupied last year by the American Exhibition, was, at the time of our visit on Monday last, in a very incomplete condition. But what there is of it already to be seen gives us justification for saying that the Exhibition will be, as a whole, a very much more interesting one than its immediate predecessor. There is a large display of sculpture, Venetian glass, cabinet work, furniture, and the products of art industries and processes. In the grounds, the scene-painter has been at work with good effect, and besides a view of the Forum at Rome, some of the necessary corrugated-iron buildings are masked with canvas representations of famous Italian buildings or ruins. The "Switch-back Railway" has been backed by painted representations of the line of the Alps, but the crags and peaks hardly soar high enough to shut out the disillusioning effect of stray chimney-pots belonging to the houses in the rear. When the Exhibition is a little more advanced towards completion, we will visit it again, and say something about the exhibits. The Exhibition is likely to be a very popular resort during the ensuing six months. The large marquee used for the opening ceremony is to be retained, and here, in unfavourable weather, the band will play. The small band of picturesquely-attired Neapolitan mandolinists, with their characteristic music, singing, and dancing, are likely to be very popular. The semblance of sunny Italy has further been sought by festooning the covered approaches to the Exhibition with artificial vines laden with bunches of grapes. They look very well now; let us hope they will wash when they become dusty. Something was amiss with the electric lighting apparatus on Monday evening: the building and grounds were in semi-darkness, long after dusk, and at 8·30 orders were given to admit no more visitors. This was an unfortunate *contretemps*, which will not, we hope, for the sake of the Exhibition, be repeated.

A FAMILIAR landmark has just disappeared from the Metropolitan and University boat-races course. Craven Cottage, and an adjoining tenement, were destroyed by fire in the early morning of Tuesday, the 8th inst. The cottage stood in Crabtree-lane, beyond Bishop's-walk, by the river side. It was originally built by Elizabeth, widow to William, sixth Baron Craven, who, after her first husband's death in 1791, married Christian, Margrave of Brandenburgh-Anspach and Bayreuth, a title commemorated by old Brandenburgh House, at Hammersmith, wherein Queen Caroline died on August 7th, 1821. The Margravine lived until January, 1828. As altered and beautified by Mr. Walsh Porter, who died there in 1809, Craven Cottage was, according to Mr. T. Crofton Croker, "considered the prettiest specimen of cottage architecture then existing." In his book, "A Walk from London to Fulham," as revised by his son, Mr. T. F. Dillon Croker (1860), will be found a short description of the somewhat unusual structure and furniture of the principal rooms, with a woodcut of the door of the Egyptian Hall. This doorway opened into the semi-circular library wherein the late Lord Lytton, who occupied the cottage for a few years, is said to have composed some of his novels.

IN a "Note" in our paper of April 4, 1887, we adverted to Miss Octavia Hill's philanthropic project for the establishment of a people's hall, with public garden attached, on a plot of ground in Red Cross-street, Southwark, near to the old "Cross-Bones" graveyard. That lady's scheme is approaching to its accomplishment. The garden is given by the Ecclesiastical Commissioners, and has been laid out, at the cost of Lady Ducie, by the Kyrle Society. The hall, together with its immunity from ground-rent for a term, has been supplied by donations, including a sum of 2,000*l.* from the late Hon. H. F. Cowper. The adjoining buildings of the Victoria Dwellings Company are in charge of Miss Hill and her friends; and a room has been added to the hall for the Working Men's Club. Mr. Walter Crane has made some drawings for decorating the hall, which, opening on to the garden, will serve as a reading-room as well as for concerts, entertainments, and the like. The Red Cross Hall and Garden opening festival is to be held on June 2 next, under the presidency of the Archbishop of Canterbury.

IT is gratifying to record that the plays founded on Homer and Æschylus which have been performed in London at the late Sir Charles Freake's house and at the Prince's Hall, under the titles, "The Tale of Troy" and "The Story of Orestes," have now received a permanent literary and artistic form in the beautiful volume published by Messrs. Marcus Ward & Co.,* in which Professor Warr's English version of these two great Greek legends is combined with illustrations and decorations designed by Mr. Walter Crane. The volume is a beautifully-bound folio, with large margins, every page being embellished

* Echoes of Hellas: The Tale of Troy and the Story of Orestes, from Homer and Æschylus, with Introductory Essay and Sonnets by Professor George C. Warr, M.A. Presented in eighty-two designs by Walter Crane. London: Marcus Ward & Co. 1887.

with figures representing the scenes and personages described, the whole connected by decorative margins, so that each page is a separate design in itself. Though we should have desired, in some cases, a greater clearness and simplicity of line in the figure designs, which are occasionally a little too much shaded and worked up for decorative effect (we might add, for purely Greek character), Mr. Crane's designs are full of poetic and old-world feeling, and many of them very beautiful and expressive. The designs and borders are printed in red and black, the borders being red, and the red is also used a good deal for backgrounds in the introduction of subsidiary figures and emblematic accessories, the principal figures being in back and white. Mr. Crane has been particularly successful in his various representations of Andromache and Cassandra. Helen is not equal to the Homeric ideal; but Helen was a *femme incomprise*, not easily to be realised in black and white. Prof. Warr's "Introduction" contains a great deal of interesting comment on the characters in the two legends which are dealt with. The incidental music composed for the two plays by Mr. Walter Parratt, Mr. Malcom Lawson, Mr. Otto Goldschmidt, and Dr. Monk, forms a companion volume to that containing the text and the designs.

ON a vacant site to the south-east of Belford Bridge, Edinburgh, a new Free Church is to be built in place of that presently used for the Dean district; the site is a fine open one, and the church is to be of considerable architectural pretensions. The plans have been prepared by Mr. Sydney Mitchell, architect, in thirteenth-century Gothic style, to accommodate a congregation of 600. The cost, exclusive of the tower, is estimated at 6,000*l.*, and of this sum 5,400*l.* have been subscribed. While speaking of Edinburgh, we may mention that it is proposed to make a new thoroughfare in continuation of the South Back of Canongate, leading from Holyrood Palace westwards to the east end of Chambers-street. The operations will embrace the widening of the present thoroughfare from the south end of St. John's-street to the foot of the Cowgate; the street will then proceed onwards to the south of the Heriot School, through the grounds of the City Fever Hospital, and thence past the Public Baths. The cost of the property to be acquired will be small, and the contemplated improvement will not only serve to relieve the traffic, but be a decided advantage in a sanitary point of view. Plans have been prepared by the City Road Surveyor showing a street 40 ft. wide, with levels and gradients which necessitate considerable excavating at the portion to the south of the Cowgate.

WE shall devote some space next week to the remarkable exhibition at Glasgow; meantime we may say that the exhibition, as a whole, is a wonderfully well-balanced one. Of course, in a centre like Glasgow, it was to be expected that the products of workers in iron and steel, and the patterns of these products, should predominate,—and so it is. Machinery and shipbuilding models and appliances are in strong force, but these are very far from swamping the less prominent classes. Exclusive of pictures and statuary, women's arts and industries, the Queen's Jubilee presents, and the historical relics housed within the reproduction (in the park) of the ancient castle of Glasgow's bishops and archbishops, there are about 2,000 exhibits, or grouped exhibits, in all, ranging over every craft known to man, and representative, more or less, of every quarter of the globe. An analysis of the catalogued entries shows that nearly one-third of these hail from beyond the bounds of Scotland, which, under the circumstances, is a very liberal proportion. England is by far the largest of the outside contributors, with a total of rather over 400 exhibits, or one-fifth of the whole. Of these 127 come from London, while Lancashire makes a close second with over 100, followed, in order, by Yorkshire and the Newcastle centre. Singularly enough, Wales is all but unrepresented, the entries barely touching half a dozen in number, and confining themselves to the crude forms of ores, coal, and roofing slates. Ireland does much better with its thirty-eight entries, which, however, are chiefly from Ulster. Canada has one collective and comprehensive exhibit under the charge of an officer of the Dominion. Ceylon is similarly represented; and three courts are devoted to India, which is to the front with a large and varied display. Exclusive of the Canadian collection, but little has come from North America, and rather less from South America, the West Indies, and Africa; but the continent of Europe has responded well, with about seventy different stands and single exhibits, almost every country contributing.

FROM a paragraph in the *Times* last week we learn that various owners of valuable representative pictures of the modern English school have been generous enough to lose their treasures for a long time, as well as to run all the risks of a sea voyage, in order to contribute to the representation of modern English art at the Melbourne Exhibition. Sir F. Leighton will be represented by his "Phryne" and "Hercules struggling with Death for the Body of Alcestis." Three grand Turners from the Duke of Westminster's collection are among the loans, and Mr. Watts's "Love and Life," Sir. John Millais's "Mr. Gladstone," Mr. Tadema's "Apodyterium," Mr. Holman Hunt's "Scapegoat," and many other pictures of note.

MR. J. D. CRACE'S paper on the Decorative Use of Colour, read at the Society of Arts on Tuesday, May 8th, touches very well and in a very true critical spirit the main points of the subject. Colour, as he observes, is, in a decorative scheme, the less required and the more guardedly to be used, in proportion as there are elaborate mouldings. These give their effect by opposition of light and shadow; and strong colour, unless very partially and judiciously applied, interferes with and weakens the effect of the mouldings. Many of our readers may remember a spirited battle in our columns a good many years ago, started by the late Mr. Edmund Sharpe by an attack on the use of strong colour decoration on Gothic mouldings. Mr. Sharpe was rather *too* achromatic; but his protest was not uncalled for. Mr. Crace points out that where flat surfaces abound and architectural lines are few, there is the opportunity and field for colour. He makes a remark also in regard to the decoration of public buildings which is worth special notice, viz., that in these, coloured decoration needs to be both fuller and more carefully balanced than in private houses, as public halls have not those accessories of carpets and furniture which in themselves bring so much colour into the picture. We are not sure, however, that the exterior of a building is necessarily and naturally less dependent on colour than the interior. Is not this to some extent a matter of habit? It is more difficult and costly to apply colour externally, in this climate, than internally, and so we do not get much of it, and are used to think it unnecessary. It does not appear that the Greeks thought so.

ARCHITECTURE AT THE ROYAL ACADEMY.—III.

1769, "Victoria Coffee-House, Leicester"; Mr. E. Burgess. This is certainly something very different from coffee-house architecture in ordinary. It is a pencil perspective of a very picturesque building, the lower portion with a narrow projecting wing at each extremity, between which is a ground story of heavily-moulded segmental arched windows, with massive corbels supporting a balcony with an ornamental railing running from wing to wing; above are two stories of François I. proclivity, with Ionic columns between mullioned windows. The upper portion is broken into an octagon with a high circular roof, and two side wings branching out at an angle of 45° from the sides of the centre feature, one ending octagonally, the other in a circular turret. How are these carried? The thing is delightfully and audaciously picturesque in appearance; but we should have liked to see a plan and section, and how the treatment of the upper portion accorded with the practical requirements of the building.

1770, "Design for new Front to the Free Library, Chester"; Mr. T. M. Lockwood. A good sepia drawing of a timber front in accord with the prevalent style of old Chester. The ground story is of masonry, strengthened by buttresses; but there might have been a more solid and massive treatment of ground-story windows and other details, which look, in fact, weaker instead of stronger than the timber architecture above.

1772, "Business Premises, Gold-street, Northampton"; Mr. Albert D. Smith. A brick and stone front, with the shop window formed by a large elliptical arch. In order to get the entrance separate, the arch is out of centre, and the superstructure sits unevenly upon it, which looks weak in an arch with so little abutment and so much on it. The details show original invention, or, at all events, combination, and the whole is well intended to give architectural interest to a business building. The two realistic cats on the cornice at the foot of the gable are well enough to amuse the designer at the moment, but it is not a joke worth perpetuating in stone, nor by any means in keeping with the general character of the front.

1773, "A Design for a Bell Tower, St. Michael's, Coventry"; Mr. J. Oldrid Scott. The design to be actually carried out is, we believe, materially modified from this. It is a fine, solid, amply-buttressed tower of Late Decorated style, verging, indeed, on Perpendicular, shown in a very effective pen drawing. The little pinnacles standing free on the slope of the buttresses, connected by a mimic flying buttress with the main wall, are quite out of keeping with the massive style of the rest of the tower, but are introduced perhaps to assimilate it more to local style of Gothic.

1774, "House at Godden Green, Sevenoaks"; Mr. F. M. Simpson. A pretty, unpretending country house. No plan.

1775, "Church of St. Margaret, Lee, Kent, interior looking east"; Mr. James Brooks. A finely-drawn pen interior of a large, spacious vaulted church, of very Early Decorated manner, with five lancets filling up the east end, with the spandrels in an approximation to tracery. There is, perhaps, a deception in the perspective effect from the drawing being hung so high, but we should have thought the thin proportions of the piers and the extent of space between them rather exaggerated.

1777, "Byzantine Door near Assisi"; 1781, "Etruscan Candelabrum, Chiusi"; 1784, "Cortile of Palazzo Vecchio"; Mr. R. Barratt. These, which are hung in a row together, are admirable specimens of their author's exceptional ability as an illustrator in water-colour of old architecture and artistic work. The Etruscan candelabrum is remarkably rendered, with all the various stains and discolorations due to dust and time. It is a design in which the lower part of the stem consists of a nude figure of a man from which the upper portion grows, with a bowl at the top with edges turned over and cut in a scalloped pattern. The legs form a tripod. The drawing appears so true and careful in colour and character that seeing it is almost like seeing the thing itself. The Byzantine door is a curious old yellow-stained affair, with a stone frame carved with a foliage ornament, in which reminiscences of the Greek honeysuckle are just struggling into a kind of Gothic freedom, and above is a carved figure in a circle "supported" by two creatures which form a rude reminiscence of the old classic griffin, with one fore paw stretched out, here translated from his Pagan associations into the service of early Christianity. The inner edge of the door frame is accentuated by a thin shaft with a twisted cable moulding. It would be difficult to find a door with more architectural history in it. The drawing of the cortile of the Palazzo Vecchio is a fine water-colour of a more finished type.

1778, "St. Matthew," bronze, by Donatello, in San Antonio, Padua; Mr. G. C. Horsley. A pen sketch, executed in free flowing lines, rather in the manner of etching, of a half-length in Donatello's grave and severe style. By the same draughtsman are, "Roman Mosaic Floor: San Zeno, Verona" (1779), and a similar fragment of Mosaic floor "from the Museum at Verona" (1786). If the last-named is really Roman, as the guilloche border implies, the scroll pattern in the wider border,

with its thin twining stalk in cleanly-drawn curves, and curiously Gothic-looking leaf, is an exceptional kind of thing in Roman work.

1783, "Interior of Library"; Mr. W. Stirling. A small pen-drawing of an interior, in which the bookshelves and cupboards are treated with a good deal of character in an unpretending manner.

1787, "Lodge and Cottages"; Mr. Ralph Nevill. A frame with a lodge and three smaller sketches of cottages, done in a rather yellow monochrome. Half-timber work, with stone or brick ground stories. The cottages, the middle ones especially, very pleasant and picturesque. The lodge seems to us to attempt rather too much for the kind of building, and wants simplicity.

1788, "New Church, Glanadda, Bangor"; Mr. A. W. Blomfield, A.R.A. A capitally-executed, though rather heated, water-colour view of a small, but solid-looking church of very Early Decorated type, an equally solid-looking south-west tower, with a slated (apparently) lantern and spirelet growing up between the angle pinnacles of the tower. The tone of the drawing is, perhaps, meant to accord with the tone of the Bangor slates, with which local product the building is, of course, roofed. It is an eminently satisfactory and orthodox modern Gothic church.

1789, "A Cottage, Harpenden"; and 1790, "House, Streatham Common"; Messrs. Ernest George and Peto. Very pleasant sketches of old houses. We did not know Streatham Common possessed such interesting relics of former times.

1791, "Morden Grange; Entrance Front"; Mr. John Belcher. The author is one of those high-minded contributors who dares to send elevations, and adds also a plan. This is a simply-drawn elevation in pen-line, with no cooking up; but now *is* this an old house, or a modern one which Mr. Belcher has been reconstructing? It would be difficult to say; but we will conclude it is a modern one, though all its features and general physiognomy are old. There is something about the stables that lets the cat out of the bag; the curl of the coping in a spiral in front of the chimney is a modern quip. The large mullioned hall window on the left of the entrance, filling nearly all the recess, contrasts pithily with the nearly blank wall on the right, only pierced by one or two small windows; and the plan bears out the treatment. The door is flanked by pilasters, and has a cornice, over which are found those pyramid ornaments dear to the Jacobean architects. But are they such things of beauty as to bear reviving? By the same architect is "The Staircase, Stowell Park" (1792), a couple of sections showing the design and arrangement of the staircase, with its panelled wainscot walls, pilasters, and what the decorator would call a plaster frieze over, but that division of things called "a frieze" is included in the capping of wainscot. The windows, filled with decorative lead lighting and a few bits of colour, take their impost at the wainscot cornice, and cut into the plaster decoration. This, also, has an "old look," but it is very refined work, in excellent taste; a plan of the staircase is added here also. We wish more contributors would illustrate their work in this proper architectural fashion, instead of merely making pictures.

1793, "Design for an Interior"; Mr. W. Stirling. A curious-looking clever pencil drawing, showing an interior with a fireplace and recess, and a flowered frieze, and figures on the walls. The flower ornament is fine and bold in design, but strikes one as too large in scale, unless this were a smaller room than from other indications it appears to be.

1797, "The Drawing-room, Stowell Park"; Mr. John Belcher. A brilliantly-executed pen drawing of an interior, but not quite so immaculate in taste as the staircase of the same house, mentioned above. The fireplace recess is flanked, in a sumptuous manner, by marble columns and pilasters, coupled in each direction; the cornice they carry runs back into the recess and forms an impost for the arch, and on the under side it is recessed the width of one column, forming a cosy niche for a great easy chair; so far, good; but the column and pilaster facing the room carry nothing but the return of the cornice and a couple of those unmeaning pyramids again, standing over it. The wall is wainscotted, with a wooden (?) cornice, and there is a plaster traceried ceiling; windows deeply recessed; the general effect grandiose; but we should much like to knock those pyramids off their perch. The table shown in the foreground is hardly in keeping with the rest of the room.

BLACKBURN TECHNICAL SCHOOL COMPETITION.

No fewer than seventy-five designs, by seventy-three contributors, have been submitted in this important competition, for which the second and third placed competitors were to receive premiums of 100*l.* and 50*l.* respectively, and the first placed architect was to be employed in carrying out the building,—at all events, the first portion of it; for it was part of the instructions that the plans were to be so arranged as to admit of a portion, of the value of about 15,000*l.*, being carried out at once, while leaving the remainder for future completion. The whole design as shown was also to be capable of future extension. This latter provision some of the competitors, including the one placed first, have got over by simply providing for the continuation of a corridor which can be made a bridge or connexion with an entirely new block of buildings. This was perhaps the best method to employ, as it is hardly worth while to hamper the arrangement and lighting of the first building for the sake of providing for an addition in the distant future, which may possibly never be carried out.

The site is a rather awkward one in shape, though ample in size, being roughly a triangle, running down at least to a rounded-off corner at the east end, at the meeting of two streets, Blakey Moor and Nab-lane, and the ground falls rapidly to the westward; this latter point is often, however, no disadvantage in a site; it may be even a convenience.

Mr. E. C. Robins, who has made the subject his own, drew up the instructions and acted as assessor, and the Corporation have, it is understood, entirely accepted his judgment.

On the basement level four large sheds were to be provided, lighted from the top by ridge-and-furrow roofs, to be used for studies connected with spinning, weaving, mechanical engineering, and modelling. On the ground-floor it is recommended to place class-rooms for commercial education and cookery (the latter with a ladies' room in contiguity with it), and the Physics and Engineering department; on the first floor the Chemical department, and on the second floor the Art department; but this arrangement was not binding on competitors. A suggestive block plan was also issued, showing the buildings in the L form on two fronts of the site, and the top-lighted sheds in the angle of the L. This was merely a suggestion, but a majority have followed it, most of the rest having adopted a V shape, following the boundary lines of the site, and including the shed space between the arms of the V.

Mr. Robins, after a very long and exhaustive examination, we are informed, of the plans (and those who have read Mr. Robins's book on technical school fittings will understand how he would go into the subject), selected six plans as the best, the first being recommended, of course, for adoption, and the two next for the two premiums. There were the designs signed "Work," "Practical Knowledge," "Lux," "Utile Dulci," "Red Heart," and "Faraday," in the order named. We will first look at these six designs.

"Work," No. 43, follows generally the assessor's suggestion in his block plan. Engineering and architectural drawing is provided for in one of the four large sheds aforesaid, under a glass roof. The corridor communication is well managed and the corridors kept light, those in the basement having borrowed lights from the large sheds. The entrance is in the front, facing the narrow end of the site, with a conveniently placed and central staircase, and the Chemical department on the first floor is very well planned. The architectural design is suitable enough, with large mullioned windows. It would be all the better, even architecturally, if some of the spikes and finials, &c., were knocked off. The author does not waste funds in a show tower, but has a narrow, upcast tower for ventilation and smoke combined, at the back portion of the building. We do not like the large circular-headed windows on each side of the principal elevation; they have a railway-station look. The arrangement of the basement waterclosets is not satisfactory; these will be apt to ventilate into the building unless there is any special means of creating an extract current from them in the right direction, of which there is no evidence in the section. Generally speaking, however, this is an exceedingly well-arranged plan.

"Practical Knowledge," No. 21, is the only one which adopts the assessor's L plan the reversed way, ⅃. The architectural design is of the barest description, little more than a mill, and has absolutely nothing to recommend it, except, as people say, having "no nonsense about it." The entrance is near the exterior angle of the ⅃, and the main staircase is got into the re-entering angle, or close up to it, with a subsidiary staircase at the end of one of the corridors. The two corridors run up the middle of each wing, with light at the end of each (a good deal intercepted by the stairs in one case), but with no light in the interim. We are rather at a loss to understand the selection of this for the second premium. The plan appears to us of a most elementary description; the shape of the Art room, and the manner in which the stairs land into it, are like a pupil's planning; and instead of keeping Chemistry together on the first floor and using the top floor for the Art rooms, the latter are on the first floor and the Chemistry department is divided between the two floors. It is certainly a very rapid descent in point of planning from the first premium plans.

"Lux," No. 31, is a V-shaped plan, with the entrance at the small east end of the site, opening into a lobby, with secretary's-room and waiting-room on either hand, and giving on to a hall and centre staircase immediately opposite the entrance. The large sheds fit into the interior of the V. The plan covers a great deal of ground, and dispenses with a second floor altogether, collecting the Art rooms in the north wing, and the Chemistry rooms in the south wing of the first floor. There is a simplicity in the grouping and division of the departments here which is good, and the corridors are all properly lighted; but there are two very long *cul-de-sac* corridors, spreading the rooms far apart, and in a general way there are always disadvantages in these plans at oblique angles, leaving awkwardly-shaped corners and recesses. There are various waterclosets placed against internal walls, for which it is to be hoped adequate means of extract ventilation were contemplated; and the ladies' lavatory is ingeniously planned, with its door at the end of the longest corridor, in full view along the whole corridor. It is curious what a want of common sense is frequently seen in arrangements of this kind, even on plans in other respects good. The exterior design of the building has nothing whatever to recommend it, but nothing particular to object to. There is a certain effectiveness in the large octagon turrets on either side of the east elevation, but they do not arise out of anything on the plan, and form mere spaces in the rooms which are of no use, except that one of them gives a projecting angle bay to the library and committee-room. The main idea of the plan is clever, however, and there is a unity of idea about it in an architectural sense, of which more might have been made in the design, without any increased expenditure.

"Utile Dulci," No. 24, takes the assessor's main idea of plan, leaving a large piece of ground unoccupied at the east-end, and entering in the centre of the east façade. The design is a cold but rather costly Italian one, with a tower over the entrance, not abnormally high, and the usual academical details of this type of building. There is a large central staircase, with open areas for light and ventilation to corridors on each side of it. The plan is far superior in arrangement to that of either the second or third-placed designs; it is a very good plan, well lighted, and the rooms of the various departments are kept sufficiently apart without too great a length of corridor. It is, however, no doubt a more costly building than those we have noticed, but this results from the cupola, and the style employed necessitating a great deal of costly masons' work; no increased cost necessarily arises out of the plan, which, in fact, is very economical of space.

"Red Heart," No. 45, adopts the assessor's main plan, but with the entrance in the south side. The plan is very conveniently arranged for dividing up for execution in two portions. It is conveniently arranged as a whole, but open to a good many objections in detail; *e.g.*, the Building Construction room in the basement can hardly be said to be adequately lighted; the situation over the carpenters'

shop is hardly the best for the balance room; the masters' room on the first floor is of a very awkward and uncomfortable shape. The author gives ample height to the Chemical lecture-room and laboratory, which are carried up two stories; and he has his elementary drawing-room and designers' class-room lighted from the top, which is a great deal better than side lighting; in a large square form of room, as the elementary drawing-room must generally be, the best side windows will not fully serve those who have to work in the middle of the room. The elevations, which are very simple, have a certain amount of character, nevertheless, as also the treatment of the upcast shaft.

"Faraday," No. 15, is a triangular plan with an entrance under an octagonal tower at the east angle of the site, and the main buildings surround a not too large triangular central court, an arrangement by no means good on sanitary grounds. On the ground-plan, part of this area is occupied by the cookery-school, which is top-lighted, and the class-rooms opposite cannot enjoy a good circulation of air. The drawing-schools are lighted from the top, and very compactly arranged as to access from the top landing; this is the best part of the plan. The exterior elevations and perspective view are superior in style and picturesqueness to any of those previously mentioned. A big corbelled-out projection of the roof in part of the south front appeared a mere bit of scenic effect, but we observe the author has, at any rate, given a clever excuse for it in his section of the drawing-room, where it forms a long recess and shelf, two or three feet above the floor, which may certainly be turned to useful purpose in the keeping of casts. He also has a notion of "treating" the top of the upcast shaft. On the whole, though we object to the closed quadrangle (or, rather, triangle) of the plan, this is a very meritorious set of drawings.

We have naturally looked first at the six designs placed by the assessor. The large room at the Blackburn Town-hall is full of drawings; they ascend up even on to the orchestra seats, and we regret that the elements of time and space preclude our doing more than giving a brief mention of some of the best of the remaining designs among this mass of work. "Alias," No. 1, though very defective in plan, shows merit in imparting some refined character to a very simple exterior design. "Plan and Light," No. 2, is a well-arranged plan, with a suitable though simple architectural treatment; no perspective is included, and the elevations appear to have been rather hurried; but they are a good set of drawings in relation to their purpose.

"1888," No. 13, a ⊥-shaped plan with the entrance in the centre of the lower line of the ⊥; a well-arranged plan and a good elevation, but some of the prominent features of the elevation (large windows at intervals, &c.) have no relation to anything in the plan.

"Crux," No. 16: a good and suitable exterior treatment, but not much to be said for the plan.

"Kenneth," No. 17: a very rich and picturesque external design; in the plan the corridors are mainly arranged round a central square court; a convenient plan for intercommunication, but not so desirable on other grounds. The first-floor plan is at variance with the ground-plan in the placing of walls, &c. (This is the case with some others of the more elaborate sets of plans, in which the first-floor walls seem to have been arranged at pleasure, just as they were wanted, and with little reference to those below.)

"Crucible," No. 25: a spirited and well-drawn perspective view, of considerable merit, in its way; the drawings have been admirably got up, but the plan, unfortunately, will not bear inspection.

"Extempore," No. 28: a characteristic exterior treatment, shown in a good perspective sketch, but the plan is unpractical. This seems the way through a great part of the collection: the men who can make picturesque exteriors do not understand, or do not care for, the planning of the buildings according to the best practical lights; and those who do, make ugly elevations.

"Simplicity," No. 35, shows a couple of very nice and refined elevations, but the plan does not evince any acquaintance with the details of the class of buildings required. "Art and Commerce," No. 36, is a good plan of the V type; elevations good and characteristic.

"Dædalus," No. 63, is noticeable for a really powerful and original exterior design, in which a front of mullioned windows of rather rich effect is stopped at either end by a great circular turret of plain masonry with a conical roof and small windows in a mass of solid wall. This is really an artistic drawing, but on looking at the plan we found it simply absurd, and these towers were merely cut up internally anyhow into the plan.

"Progress," No. 64, is a splendid set of drawings, on which the author may be congratulated and consoled with, for he has given himself much conscientious labour with no result. His is a V-shaped plan, with a good deal of merit; the corridors are kept on the south of each arm of the V, running inside on one and facing the street on the other, so as to give both sets of rooms a north light; the corridors are long, but the rooms intended to be connected together in regard to their use and subject are sufficiently well grouped. The treatment of the connecting angle of the two arms is (on plan) very weak architecturally, and the staircase is poor and ineffective; but this is by no means an unpractical plan, and might certainly seem to have good claim to have been placed unless it was upset on the score of expense.

We are unable to refer in detail to any more of the designs; we briefly looked, however, at nearly all, and our conclusion is that the best plan has been chosen, though we care very little for its architectural treatment. It is to be regretted that so much hard work has been thrown away by so many competitors; but we think every one will admit that this has been one of the fairly-conducted order of competitions, and that there has been a sincere endeavour to get the best building for the purpose.

LONDON THEATRES IN 1596.

WRITING at Berlin on May 10th, the Correspondent of the *Times* tells us that "Dr. Gädertz, of the Royal Library, Berlin, has found a valuable manuscript and drawing relating to a theatre in Shakespeare's time." These original papers bear date 1596, in which year John de Witt, canon of St. Mary's Church in Utrecht, visited London. De Witt "noted many remarkable sights, and he describes Westminster Abbey, St. Paul's Cathedral, and other buildings. But the most curious of his reports is that on the theatres." His drawing, —an interior,—and papers are published in Dr. Gädertz's new work, styled, "The Old English Stage, and other Shakesperian Essays." Bremen: Müller.

It is not clear whether the *Times*' correspondent is quoting from Dr. Gädertz's book when he says, in his letter, that "there were four large and splendid playhouses in London about 1596, the Theatre and the Curtain [Shoreditch], towards the north, the Rose, and the Swan." Perhaps these four only were visited by John de Witt, and severally answer the description of them as being oval, beautiful structures, not of wood, but built faced with flint and marble, and capacious for 3,000 seats. Setting aside, of course, the regular performances which we know to have been given at this time in inn yards,—as at, for instance, the Bull, in St. Helen's parish, Bishopsgate, and the Belle Sauvage, by Lud Gate,—the date, 1596, of De Witt's visit to London, raises an inquiry why there is no mention of Whitefriars, or of what was then the already famous house and dramatic training-school at Blackfriars?

In the name and site of Playhouse-yard, Blackfriars, has been long commemorated one of the most ancient standing theatres that were established in the town, and which continued on that spot until it was persecuted to death and destruction by the Puritans in August, 1655. In 1574 James Burbadge, with his four associates, servants to the Earl of Leicester, had been licensed by Queen Elizabeth. Some years later we find them occupying a winter or a "private,"—which we take to correspond with a covered,—house just eastwards of the present Apothecaries' Hall. Not only could the audience come hither by water, but the company,—known until 1603 as the Lord Chamberlain's men,—were so far removed from interference by the Corporation in that their house, on the site of the dissolved monastery, lay beyond the civic jurisdiction, though within the city wall. In 1594 this company, with the Admiral's men, were acting in the house at Newington Butts. In 1596 Shakespeare is resident by Bear-gardens, Bankside; and joins his eight fellow-actors in making petition to the Privy Council for authority to begin extensive improvements and alterations in the premises at Blackfriars. Leave is given for the repairs alone; a counter agitation having been raised by some influential neighbours who were averse to the recreation which the Queen's licence countenanced for her loving subjects. Two years later Shakespeare retires to New Place which he had purchased in Stratford-on-Avon. The conveyance under which he acquires for 140*l.* a certain property, ultimately devised by him to his daughter Susannah Hall, in Ireland-yard, very near to the theatre at Blackfriars, is dated March 10, 1612-3. John Robinson, to whom the poet granted a lease of the property, had been a violent opponent of the establishment of the theatre at Blackfriars.

Now in the *Athenæum* of September 12th, 1885, will be found a reference to two documents of the years 1553 and 1555, discovered in the Public Record Office. From these we learn that in the joint reigns of Mary and Philip, two tennis "courses" or "playes" occupied the interior of the old church of St. Anne, Blackfriars, and that Sir Thomas Cawarden, as master of the revels, had converted that parish-church into headquarters of the masks and revels. Stow records that Cawarden pulled down St. Anne's, and the Friars' church as well. Moreover, some particulars of the early history of this theatre may be gathered from the Report of the Historical MSS. Commission of 1879, upon the Loseley manuscripts. We find that on November 12, 1538, the monastery was surrendered to the king. Edward VI. sells the hall and site of the prior's lodgings to Sir Francis Bryan; in the third of his reign he grants to Cawarden the whole house, site or circuit, compass and precinct of the late Friars' Preachers within the City of London, as for the yearly value of 19*l.* By a deed of feoffment of February 4, 1595-6, Sir William More, of Loseley, county Surrey, conveys to James Burbadge [he signs Burbadge, not Burbage] certain premises which are set forth as "beinge within the precincte of the late Blackfryers Preachers nere Ludgate in London." These premises are identified with the Revels office and Cawarden's store-rooms for scenic "properties" at Blackfriars. Sir William More acquired them, as Cawarden's executor, after the death of Cawarden's widow. Sir George More, his son, by indenture dated June 26, 1601, sold to Cuthbert and Richard, sons of James Burbadge, some adjoining tenements for the extension of their father's original acquisition. These matters are more fully discussed in an article in the *Athenæum* of August 9, 1879.

Those, and they are not few by any means, who follow Malone, and Collier after him, will further urge that the Globe, on Bankside, Southwark, was built in 1594. But on this point the new information given forth to the world by Dr. Gädertz strikingly supports the later investigations of Mr. Halliwell-Phillips. The latter author shows how that celebrated house—Ben Jonson's "fair filled Globe," "the glory of the Bancke"—had its origin in the Theatre at Shoreditch. The Theatre was erected at cost of John Brayne, Burbadge's father-in-law, over certain howsing and void grounds . . . . in Holywell as let, on April 13, 1576, to Giles Allein of Haseleigh, in Essex, gent., to James Burbadge, late of London, joiner, for twenty-one years at 14*l.* per annum. The lease included a covenant for the taking down and removal "to theire owne proper use for ever such buildinges and other thinges." So Cuthbert Burbadge (the son), and Peter Street: being the same Street who contracted on January 8, 1599-1600, to build the Fortune for Henslowe and Edward Alleyne: and some others carried away the materials across the river and therewith erected a new playhouse, the Globe, on Bankside, to the east of the Rose and the Swan. This was accomplished in December, 1598. The Globe was destroyed on St. Peter's Day, 1613, by the fire which Jonson witnessed, and Sir Henry Wotton describes in a letter of July 2, 1613, to Sir Edmund Bacon. As rebuilt of wood, and with a roof of slate and tile in lieu of thatch, it survived until April 15, 1644, when Sir Matthew Brand, Knight, owner of the property, set about erecting houses on the site. It stood north-west of the Anchor (Barclay & Perkins's) brewery, at the south-east corner of the crossing of Park-street and Southwark Bridge-road.

CORNICES AND STRING-COURSES.*

IN Diocletian's Palace at Spalato, that classical building full of Gothic suggestions, occurs such a treatment of the cornice as that at fig. 55, where it becomes very like a broad string-course under an arcade. In various early mediæval Romanesque buildings, as that at Lorsch (57), we see the reminiscence of the Classic entablature struggling into new shapes and new relations to the architectural design.† At B it is arranged as a zigzag moulding to the straight-sided arches (if they can be so called) of the windows. At C it runs over the top of the column (without any break), but a new column follows over it. We are not very far here from the employment of the triforium string-course continued *round* the vaulting shaft and merely dividing its height, though it took many steps before the upper and lower shaft became one. At Treves Cathedral, the triforium arcade shows (67) the old cornice reduced to a mere cill-moulding under the arcade, but not a string-course, as far as regards the method of using it, for it is stopped short before it reaches the pier. The cornice at Lorsch (56) is a curiously close repetition of such a cornice as that bracketed one at the top of the Colosseum (51), with the characteristic difference that there is no longer any moulding breaking round it. The extent of the influence of the modillion cornice, its survival in various forms, is again curiously illustrated in the remarkable cornice from Laon (58), to which Viollet-le-Duc calls attention in his article on the subject in the "Dictionnaire." This is as different in character as possible from the Classic modillion, yet there is seen the most distinct reproduction, in a Gothic shape, of the old Classic leaf under the modillion, which turns its end over in a downward curve at the extremity. Laon supplies us also with an early Gothic dentil cornice (58 A), with the difference that the dentil is confined within a hollow instead of having its lower edge free. This section serves also to illustrate one characteristic distinction between the typical Gothic cornice and the Classic, from which, through many variations, it was derived, the absence of that marked projection of the upper portion of the cornice, the Gothic cornice tending to recede towards the wall and adopt an oblique line instead of the in-and-out design of the Classical cornice.

The planing down of the cornice into a string-course is pointedly illustrated in some of the Romanesque and early Gothic campaniles of Italy. In some early Romanesque examples, as Sta. Maria in Cosmedin, and others, we find the Classic cornice repeated almost in its pure form at each story (68), an arrangement which cuts up what should be a vertical feature into a number of boxes placed one on another. In the later towers, as the Torracio at Cremona and the tower of Prato Cathedral (thirteenth century), which are of the same general type, there is still this division into stories by horizontal mouldings, but the mouldings have been much reduced in scale, and have, in fact, become string-courses; in the Cremona example they are entirely stopped by the flat buttress at the angle. At Prato the moulding is carried round the buttress, but between the buttresses the string is strengthened and emphasized by corbelling under it. These examples, however, still retain the defect of the earlier Romanesque towers of the same neighbourhood, in being cut up by the string-courses into so many equal divisions. To divide a building up into equal sections by horizontal mouldings, all of the same design, is one of the most inartistic and monotonous methods of employing string-courses, as the Italian architects discovered later on, and the Campanile of St. Andrea at Mantua (early fourteenth century) is an example of the same type of tower, but with the horizontal divisions varied in design and in spacing. The effect which the grouping and treatment of string-courses has upon the expression of a building may be instanced by the sketch of part of Spires Cathedral (70). Here, indeed, the upper part of the tower is divided off into regular boxes, as in the early Italian examples; but the point is that the strings and cornices of the lower buildings are not carried round the tower, but stopped against it. In this typical instance it is easy to see at a glance that if this had not been done the tower would have lost all its characteristic expression of rising upwards through the building, and a great deal of its apparent height.

When the Renaissance brought the Classic cornice in once more, the architects came again under the fancied necessity of using cornices or cornice forms to mark the horizontal divisions of their buildings. The Romans whom they copied left them no other precedents in this way. Accordingly, many buildings were erected with repeated cornices at various stages; or (Palladio's favourite method) a main cornice over a large order running through two or more stories, with smaller intermediate cornices stopped against the columns or pilasters of the order; a device for which the Romans left a precedent in their triumphal arches. Where, as has been said, the Renaissance architects had the courage to dispense with the order, they adopted cornices on a much smaller scale, and with less comparative projection ("short" cornices) to divide the stories of their buildings. In the profile of the Strozzi Palace (67) it is seen how this is managed, where the string-courses are in reality the dentil and bed mould and crown moulding of the typical cornice, with the modillions and corona fascia omitted. The architect (Cronaca), however, judiciously varied these two string-cornices (as they might be termed) by modifying the profiles and altering the spacing of the dentils, so as to give a little variety to them. The mode of designing the plinth, projecting boldly out from the wall face at once, a favourite one with the Florentine palace architects, is not a model to be followed; the plinth is the thickening of the wall to give greater strength in the foundations, and the wall should come out gradually, course after course, to its bearing on the thicker basement, so that the upper and lower portions seem constructively connected, not merely the one placed on the top of the other.

The character of the Lombard cornices shown at 59, 60, 61, &c., is entirely different from those we have been considering. These cornices come under our class D, cornices which project little but have a large vertical development. The Lombard, or North Italian cornices, make almost a class by themselves, and there can be little doubt that their special form arises mainly from the character of the material in which they were constructed. As the ancient Doric was a wooden form of cornice, the Roman a stone form, so this was a brick form. Great projection was difficult and unsafe with such a material, and it was made up for by increased height and multiplication of parts, and arched corbelling was formed under it as the safest and most business-like way of giving it a firm support. The various forms, including some of great richness and elaboration, which this type of cornice took, are instructive as to the degree of variety which may be attained with the same leading idea of design. About the simplest typical form is shown in the early example, 59. That of St. Lazare, at Pavia (60), is interesting to compare with it; here, the corbelling is turned into a wall arcade on small shafts, but it is the same idea. 61, 62, and 63 represent different variations played on the same materials, the methods of enrichment being mostly twisted cable-mouldings, bricks placed anglewise, and corbels. In 62 it is noticeable how the two tiers of corbels are placed so as to break the line and avoid one coming immediately over the other. The cornice of Florence Cathedral, with its great projection, is a much bolder manner of carrying out the idea, and though here purely for ornamental purposes, it was evidently a decorative modification of a form originally used for defence. Alberti says, evidently in relation to this class of cornice: "The cornices of towers and walls, besides that they add to their beauty, and are a ligature to strengthen the work, also by their projection hinder the getting into the town by scaling ladders"; so that here was an originally military form turned to decorative purpose.

The cornice from an Indian mosque (13th century) is an example which may come under the D type of cornice, but with the difference that it has only a projecting moulding, and the cresting goes up again flush with the wall-plane. The love of a cresting of varied outline is very characteristic of a great deal of Oriental work; it impressed its influence on such buildings as the Ca d'Oro at Venice, where Eastern influence is obviously traceable; and while making these notes I noticed in some sketches of Cairo architecture in the *Art Journal*, the wooden cornice (66), where we have the cresting, but turned down instead of up.

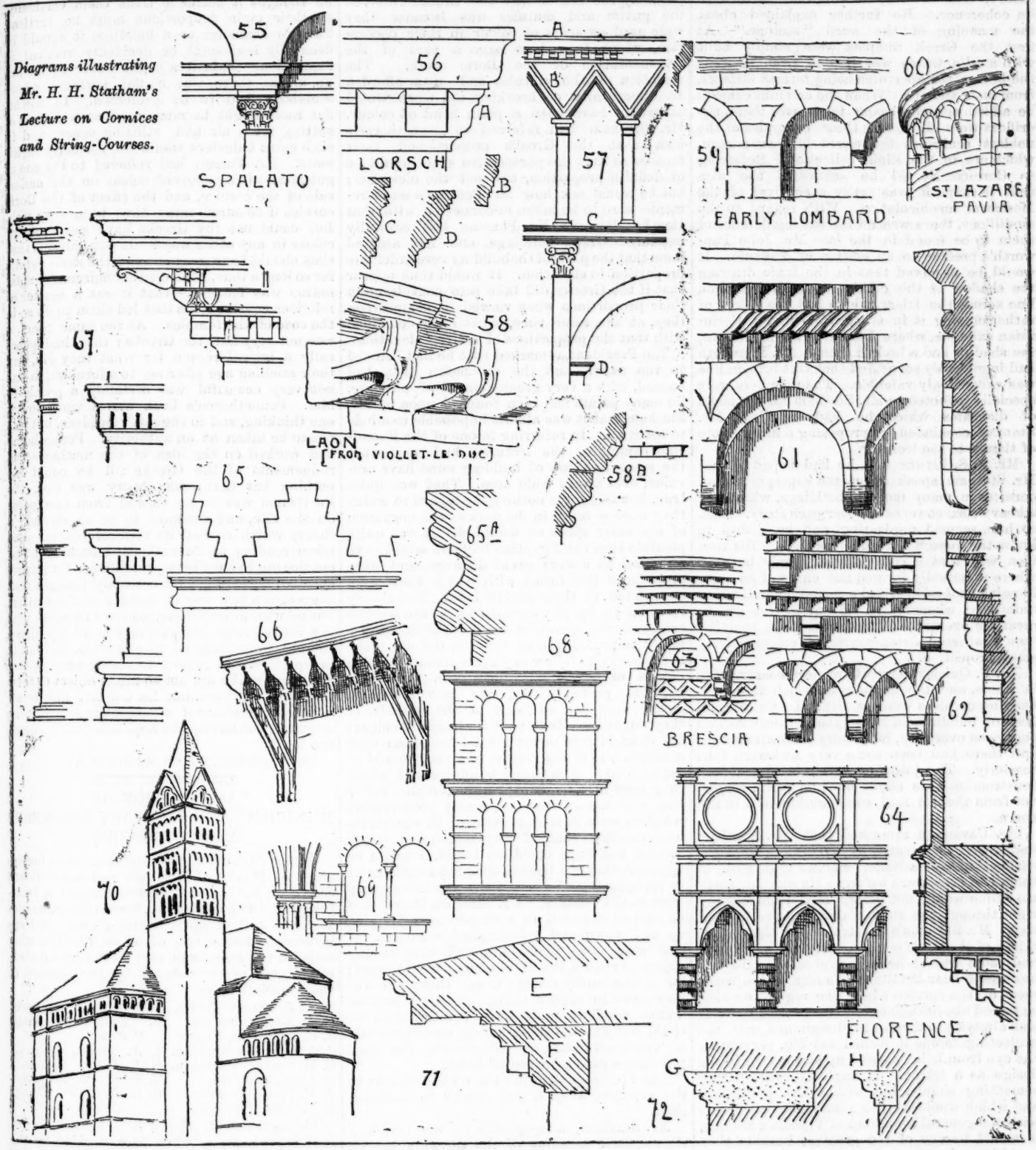
In the application of string-courses in the complete Gothic style, we can see that they were used in many cases as a pure matter of design, as binding together the parts of the design, marking out its stages, or even not marking out any real stage, but giving a break where the architect thought it was wanted for effect. In the case of buildings which are actually divided into stories, and where string-courses are employed, should the string-courses mark the floors? Viollet-le-Duc seems to think so: he says the string-course (*bandeau*) marks a floor or a level (*plancher ou sol*), and it cannot be indifferently placed. Bosc, in his "Dictionnaire" (a very useful work, prior to Viollet-le-Duc's), expresses the same opinion: "it serves to indicate the height of the floors." It is, in fact, seldom used in this way in modern work; it is frequently used to run under a row of windows, and connect them together. This is quite a legitimate use of it, though I cannot help thinking that its real office in floored buildings is to be coincident with the floors, and express externally what is the internal construction. It is quite certain that string-courses are often inserted on elevations to mark nothing at all, and merely because the wall looks bare and the designer wants to fill it up in some way. That is certainly not the reasonable or truly architectural way to use string-courses. I have a decided objection, too, to seeing string-courses running up and down the walls in steps. The string-course is one of the wall-courses in a brick or masonry building; its proper position is as a horizontal course of masonry or brick; to see it suddenly turn upward at an angle and pierce vertically through the coursing, takes away at once its constructive relation to the wall, and makes it a mere superficial ornament playing about at will; whereas really it is a course of masonry thickened out beyond the wall plane, and moulded, to give accentuation to a particular level in the horizontal layers of masonry. And this brings me to a word of exhortation I wish to give about bedding string-courses and cornices. If a string-course really means, as I hold it does, an important point in the design and construction considered together, nothing can be more weak and mean in building than the way in which we often see a stone string-course shown, for instance, in the section of a brick building with "stone dressings," a bit of stone just grooved into the wall, as at H, fig. 72. It ought to be a real bond stone, as at G (72), going deep into the masonry and binding it together, and not a mere superficial appearance. Again, it is of great importance that cornices should have an ample bed on the walls, not merely enough to keep them in their balance till they have a "blocking" over them, but enough to make them entirely firm and secure under any circumstances. I saw lately in an exhibition of architectural drawings a cornice section as in 71, and I remonstrated about it, as the lower stone had not bed enough to support itself on the walls. The answer I got was that it did not matter, because the upper stone had plenty of bed, and would keep the other in its place. Yes, and suppose it becomes necessary to repair the cornice, and the upper blocks are taken off, and the mortar has not stood so well as it should, and down comes the lower one and a man with it, and he is killed; or, suppose you are building your cornice, and the stones with insufficient bed fall over and kill some one underneath, a jury might choose to bring it in manslaughter against the architect who permitted a cornice to be set so; and if they did not, they ought to. As a matter of fact, a year or two ago, in a certain new building, a cornice just tailing on to the wall enough to balance itself did fall, and hurt two or three men; but as no one was killed, there was no fuss made about it. But it is not the less a warning.

In some cases the effect of string-courses is obtained by perfectly flat bands of stone, of a different colour or of a different size to the ordinary masonry of the walls; or by the repetition of some small feature, such as a panel. At one period of the Gothic revival, the flat stone band was much in favour with many architects, who seemed to consider it almost vulgar to have mouldings. I do not think this flat band device is so effective as a projected and moulded course; but the repetition of a simple ornamental form, incised below the wall face, is often a very

* Conclusion of paper read at the Architectural Association meeting, May 4th. See p. 336, *ante*.

† Fergusson gives the date of this example as 774 A.D.

Diagrams illustrating Mr. H. H. Statham's Lecture on Cornices and String-Courses.



pretty and effective way of forming a horizontal break in a design.

In regard to projecting string-courses and cornices, there is one very simple, and, one would suppose, obvious thing to be remembered, that a profile designed as a section at right angles to the wall assumes a great deal more projection when it is seen at the angle of the building, at the mitre. This, perhaps, seems too self-evident a thing to mention, but I believe nearly all young beginners have to find it out by experience.

The profiles of the cornice and of the various string-courses used in a design should be carefully considered in regard to their position in the building and their relation to the point of sight of the spectator. Profiles which are effective in one position will be less effective in another; those which are suited for a base course will not be suited for a string-course in the upper portion of the building, and nothing is more monotonous than a repetition of the same mouldings everywhere. This, indeed, is a part of the subject which might well claim a whole essay to itself. The eminent French architect whom I have before quoted, De Quincy, says, "The method of profiling mouldings is the touchstone of the talent of architects, and their position in the scale depends on their manner of designing this portion of their works." This may be thought to be putting it very strongly, but I believe it is no more than the truth.

Mr. Hugh Stannus, in opening the discussion, expressed the gratification the members had felt in listening to Mr. Statham's very able and exhaustive lecture. He had often thought that the best way to teach architecture was to take some special feature, such as the wall, the cornice, or the column, and to trace its gradual development. Viollet-le-Duc had done so in an admirable manner in his "Dictionnaire." He hesitated to say a word in addition to what Mr. Statham had brought before the meeting, but he would like to draw attention to the cornice No. 3 on the sheet of examples which had been handed round.* It was interesting to note that there was a great gap between the Egyptian periods. The one numbered 2 was, he supposed, of the Pharaonic period, whilst that numbered 3 was of the Ptolemaic time, there being an interval of something like 1,000 years between the two examples. It was unfortunate that Mr. Owen Jones, in his "Grammar of Ornament," had lumped all those together as Egyptian. The Pharaonic time was the great period of Egyptian architecture, when everything was simple and severe, whereas in the Ptolemaic time there was much small and petty detail used, which greatly detracted from the grandeur of the work. Owing no doubt to the manner in which example No. 5 had been drawn, the carving had the appearance of leaves, whereas in point of fact it was a row of what were termed "good" serpents. In Egyptian mythology the "Serpent of Evil" was always represented as crawling along the ground and eating the dust, while the "Serpent of Good" was represented with the broad chest and standing upon its tail; and here, above the *cavetto*, these serpents had the symbol of sovereignty on their heads, which would account for the little bulge underneath the fillet in section. Mr. Statham had spoken of the wooden origin of the Doric cornice, and he might mention that when Mr. Fergusson was working out his book on the Parthenon he (Mr. Stannus) had the honour of making a model with which was tried the experiment of the development of the Greek roof, and which, he believed, demonstrated the wooden origin of the cornice. (Mr. Stannus here explained his meaning at some length upon the blackboard.) That was Mr. Fergusson's

* See last week's *Builder*, p. 338.

theory, and it was, he believed, perfect in its coherence. He further explained about the meaning of the word "metope." At first the Greek temples were simply built with a *cella*, which was lighted from between the beams, the apertures being termed *metopes*, from *meta* and *ops*. When the columns came to be added and the beams taken over them, the orifices were filled with those examples of the noblest sculpture the world had ever seen, which are in the Elgin collection. Referring to Cornice No. 64 he submitted the idea that perhaps it was really a survival of the Mediæval machicolation. With regard to the modillions, there was an interesting defence of them to be found in the late Mr. John Papworth's preface to an edition of Palladio. It would be observed that in the Ionic drawing the shadow of the cornice gave an unbroken line across the frieze, which had the effect of rather cutting it in two; while in the Corinthian example, where there were the modillions, the shadow had a broken line. Mr. Papworth had ingeniously suggested that this broken line was exceedingly valuable. The members were specially indebted to Mr. Statham for the sheet of diagrams which he had supplied. Mr. Stannus concluded by proposing a hearty vote of thanks to the lecturer.

Mr. A. S. Flower said he had hoped to hear Mr. Statham speak about the superposition of cornices in many modern buildings, which had a heavy cornice repeated over each story. That, to him, seemed unpleasing, and he wished to know the reason for such cornices. His own idea was that a cornice should only be used where it actually formed the eaves of an overhanging roof and carried a gutter, as in Grecian buildings; wherever it did not it was an unmeaning excrescence, and should be replaced by a weathered string-course of comparatively small projection.

Mr. F. Quick referred to modern construction in Rome, and the manner in which the overhanging cornices were carried. In the general class of buildings in Rome, the cornices had an enormous overhang, frequently as much as 4 ft., and there had been some very awkward falls formerly. The joists as a rule in the modern construction were about 6 × 2 in pairs, carried out from the flat roof construction now in use there.

Mr. Cavanagh remarked that Mr. Statham had traced the treatment of cornices from the earliest times in a better manner than most of them had ever heard before. He was only sorry that time would not permit Mr. Statham to go right through the subject down to the present day. Mr. Stannus's illustration of the timber origin of the Doric cornice, too, was the clearest and most logical he had ever seen. He was anxious to hear Mr. Statham's idea on the treatment of the cornice where the regular cornice, as traced above each order, was carried out. It was always a difficulty in design, and with the projecting *corona* it looked too big, preventing the eye from being carried up and taking in the design as a whole. If anybody could design something simple, but with slight projection, and which would at the same time harmonise with the general treatment of Vignola's method, it would be one of the greatest benefits they could have in Classical design. He was aware of all the arguments against the use of columns or pilasters, but, he believed, they could gain a greater amount of dignity and proportion by the use of the orders than in any other system of design, except that used by the Italians in the fifteenth and sixteenth centuries. He thought it was in a design such as that of the Reform Club that the treatment of string-courses, which Mr. Statham had referred to, had been carried to the greatest perfection. He seconded the vote of thanks.

Mr. Bulmer Booth said he had listened with the greatest of pleasure to Mr. Statham's able lecture, and quite agreed that the cornice should be the crowning feature of the building. The lower members, if they were anything like cornices, should take a flatter projection, and form what are usually termed string-courses rather than primary divisions of the building, dividing it, as Mr. Statham said, into so many boxes.

Mr. H. D. Appleton said he wished Mr. Statham would say a word or two on the use and abuse of balusters. These were all very well to protect people from falling from a building, but the way they were used in modern London houses seemed perfectly ridiculous.

Mr. F. R. Farrow (Hon. Sec.) said that probably the reason why the Greeks retained the guttæ and mutules was because they were used as spots of colour in their decoration, which formed so large a part of the ornamentation of the Doric work. The retention of the mutules and guttæ afforded an opportunity of breaking up what would otherwise have been a plain band of colour. Mr. Statham had referred to Pennethorne's idea that the Greeks proportioned their façades so that the perspective view would be of definite proportion, and not the elevation; but he would ask how Mr. Penrose's measurements were to be taken in connexion with that view? Because Mr. Penrose had carefully measured Greek buildings, and had assured them that the parts of the building were in definite proportion in elevation. It would thus appear that if the Greeks did take into consideration their proportions when viewed in perspective, they, at the same time, must have combined with that the proportions of a strict elevation.

The President remarked that he had listened to the paper, and the discussion that had ensued, with a very great amount of pleasure. So many points had been touched upon by Mr. Statham that it was almost impossible to allude to them all. In referring to one of the Phœnician examples, the lecturer had said that the same methods of building must have prevailed over a very wide area. That was quite true, but there was nothing in regard to which they were so much in the dark as the migration of the early races of mankind. It was quite possible that the Egyptian builders might have migrated to a very great distance, and have reproduced the forms with which they were acquainted in their native land. The theory referred to by Mr. Stannus as to the wooden origin of the members of the Greek cornice might be perfectly true, but that did not make it necessary to follow any such *minutiæ* in the details of Greek mouldings now. It might be, and probably was, the fact that those guttæ were the emblems of the trenails, or they might have been used for bands of colour; but if architects nowadays did not colour their cornices, was it any reason why they should be reproduced? The Greek buildings with which they were now acquainted were temples, and it was well known how extremely conservative religions were in minute details. It was therefore possible that if any remains of Greek secular buildings could be found, it would be apparent that the Greeks were not so particular in reproducing in them those *minutiæ* as they were in the temples. Mr. Statham stated that he rather objected to string-courses jumping up and down and going round windows. If that were done haphazard, and without any object or reason, it was, of course, most absurd; but it was hardly correct to say that there was no reason in such a thing. Round or pointed arched windows must have a label, and he could not see anything wrong architecturally or constructionally in connecting the label mouldings with a horizontal band.

The President then put the vote of thanks to the meeting, when it was carried by acclamation.

Mr. Statham, in reply, said he was aware of the symbolic meaning of the serpents, but he did not think it had anything to do with the architecture at the moment. He congratulated Mr. Stannus on his demonstration in regard to the Doric cornice, as he had never seen it clearly reasoned out before; but he could not help thinking some wooden construction sketched by Mr. Stannus was suggested by the actual forms of the Doric cornice. At any rate he was not converted to the mutule; but the modillion was another thing; it was a legitimate stone form: a bracket to carry the corona. As to scales, many of the diagrams he had supplied had in many cases been taken from old books which gave no scales, but he would see if he could supply a little more information as to the dates in publishing the paper. In reply to Mr. Flower, he might say that he considered the cornice the crowning feature of the building, and that if moulded bands were used below, they should be treated in a different way from the cornice. As to the modern Roman cornice, and the way it was constructed, according to Mr. Quick, it was one of the most dreadful things he had ever heard of. He could not agree with one speaker as to "the Orders," but the subject was too large to discuss then. He considered they ought to have done with "the Orders," at least in their old form. In reference to narrow street fronts, he thought it better to treat them vertically, as their main proportions must be vertical. To give character to a building, it should be decidedly horizontal or decidedly vertical in expression. Balusters ought never to be put up unless there was a flat surface, where somebody had to be protected. In towns, flat roofs might be more used, as a means of getting fresh air and utilising space, and in such cases balusters would be perfectly legitimate. Mr. Farrow had referred to the use of guttæ for giving spots of colour on the underside of the cornice, and the effect of the Doric cornice if coloured must have been very rich. But could not the Greeks have got spots of colour in any other way? It was curious that they should have gone on using the same details for so long a time, although the chairman's explanation was feasible,—that it was a matter of religious conservatism that led them to do so in the case of the temples. At the same time, it was not very like the Greeks; they had generally a logical reason for what they did, and their sticking age after age to a form which was not very beautiful was certainly a puzzle to him. Pennethorne's book was a work to set one thinking, and to suggest new ideas, but was not to be taken as an authority. Pennethorne had worked on the idea of the mathematical refinements of the Greeks till he could see nothing but that; his theory was that the Parthenon was to be viewed from one point on the site, and designed to be so viewed; a theory which carried its own refutation. But when reading in Pennethorne's book that the cornice might have been proportioned for its perspective appearance, he certainly thought that suggested a new way of looking at the matter, but he was, nevertheless, disposed to agree with Mr. Farrow that the proportions of the Greek temples were designed in elevation, and not in perspective. In regard to string-courses over the windows, he did not so much object to them in arched windows, but he did not like to see a regular horizontal course suddenly turning upwards, and having the appearance of breaking the bond.

The proceedings then terminated.

ASSOCIATION OF MUNICIPAL AND SANITARY ENGINEERS AND SURVEYORS.

At the fifth examination of candidates for the office of Municipal Engineer and Local Board Surveyor, held by this Association at the Institution of Civil Engineers, Westminster, on the 27th and 28th of April, twenty-three candidates presented themselves, of whom the following satisfied the examiners, and were granted their certificates of competency by the Council of the Association:—

S. W. J. Barnes, Ealing.
G. H. Bayley, Salford.
J. C. S. Beynon, Exeter.
J. G. Bryans, Sunderland.
C. H. Cooper, Wimbledn.
A. Crow, Stratford.
A. R. Finch, Finchley.
S. N. Glass, Hackney.
R. M. Gloyne, Manchestr.
J. Houghton, King's Norton.
G. T. Lynam, Barnsley.
G. P. Milnes, Wakefield.
T. Pritchard, Richmond.
C. L. W. Wilson, Bacup.

The next examination will be held in London in October next, as it has been decided by the Council of the Association, in view of the comparative numbers appearing in London and the provinces, that in future all the examinations shall be held in London.

A Midland Counties' District meeting of the Association will be held at Leamington, by invitation of the Mayor, on Saturday next, May 26th. Members will assemble at 11 a.m. in the Council-chamber at the Town-hall. The following paper will be read:—"Leamington Spa Water Supply," by Mr. W. de Normanville, Assoc.M.Inst. C.E., Borough Surveyor. The following works will then be visited, viz., the Water Works, Pump-rooms and Bathing Establishment, arrangements for watering the streets with river water, the sewage pumping station, and, if possible, the electric lighting arrangements (by permission of the Electric Light and Power Company). Members will then return to the Town-hall, and discuss the paper and works visited.

The Wordsworth Memorial, Lincoln.—With regard to this memorial, of which we gave a two-page illustration last week, we are asked to mention that the Ancaster stone used for the tomb and canopy was supplied by the Ancaster Stone Company (Messrs. C. & H. Kirk), Sleaford.

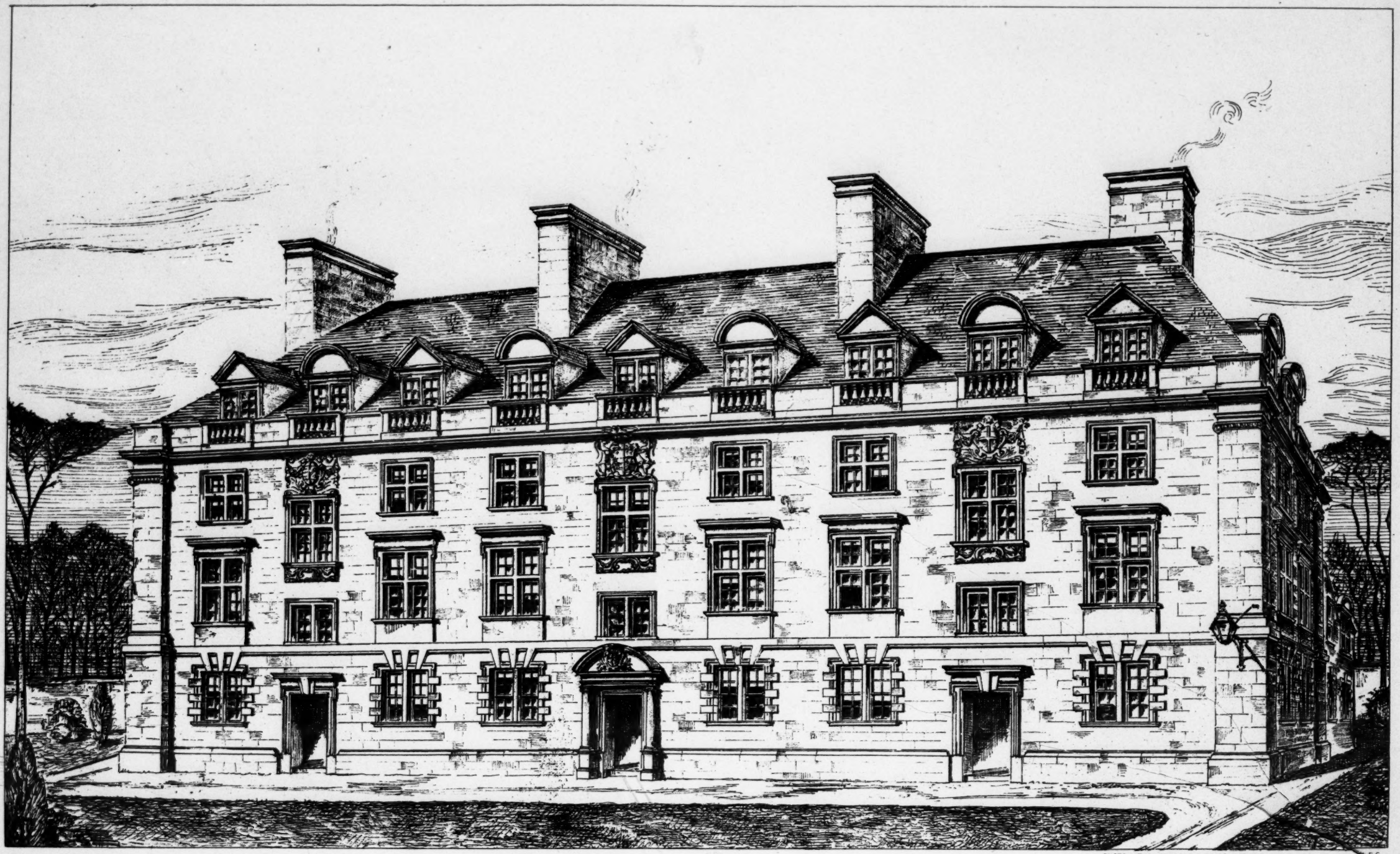


PHOTO-LITHO, SPRAGUE & Co 22, MARTINS LANE, CANNON ST, LONDON E.C.

NEW BUILDINGS, CHRIST'S COLLEGE, CAMBRIDGE.—Mr. J. J. Stevenson, Architect.

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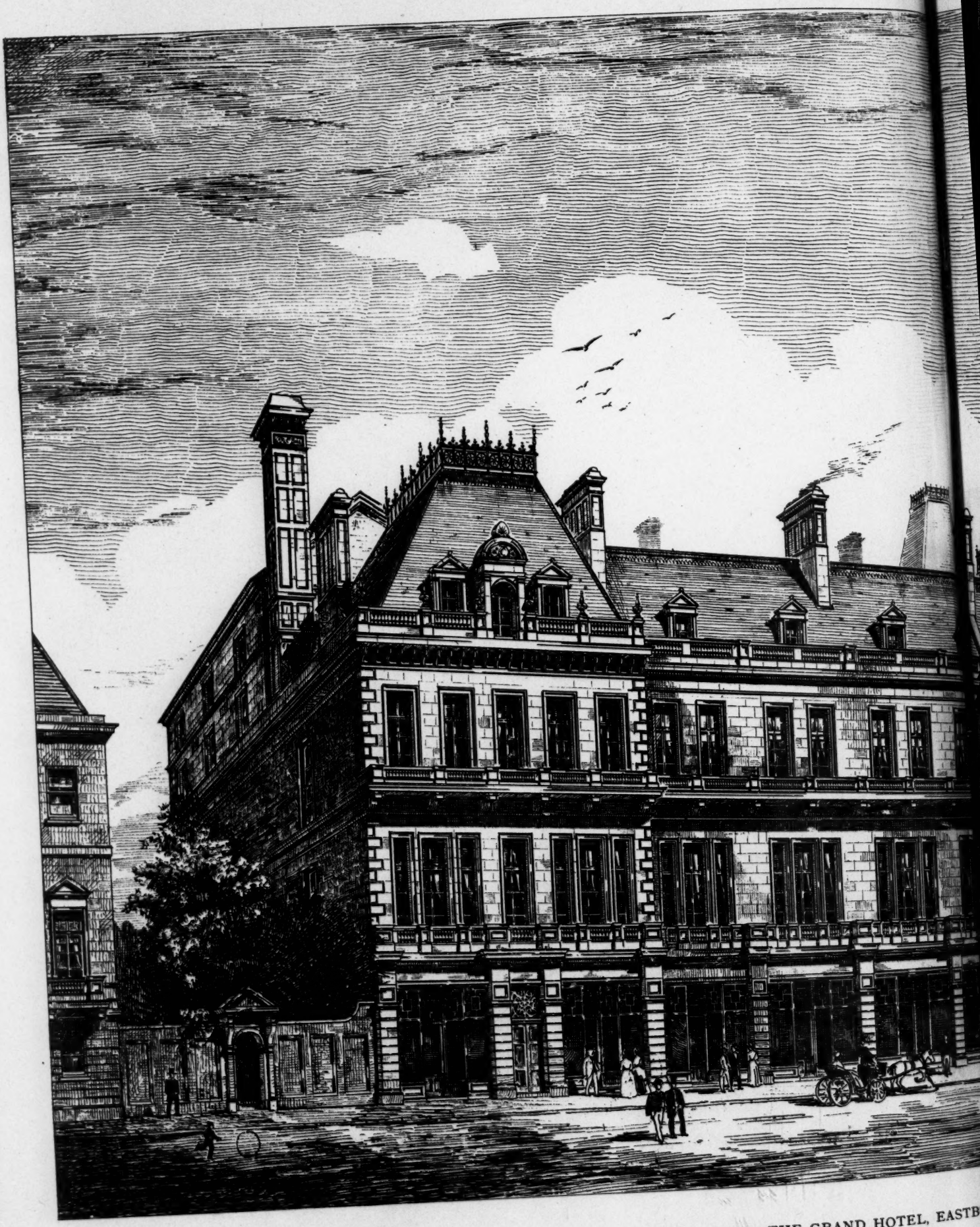


ADDITIONS TO THE GRAND HOTEL, EASTB

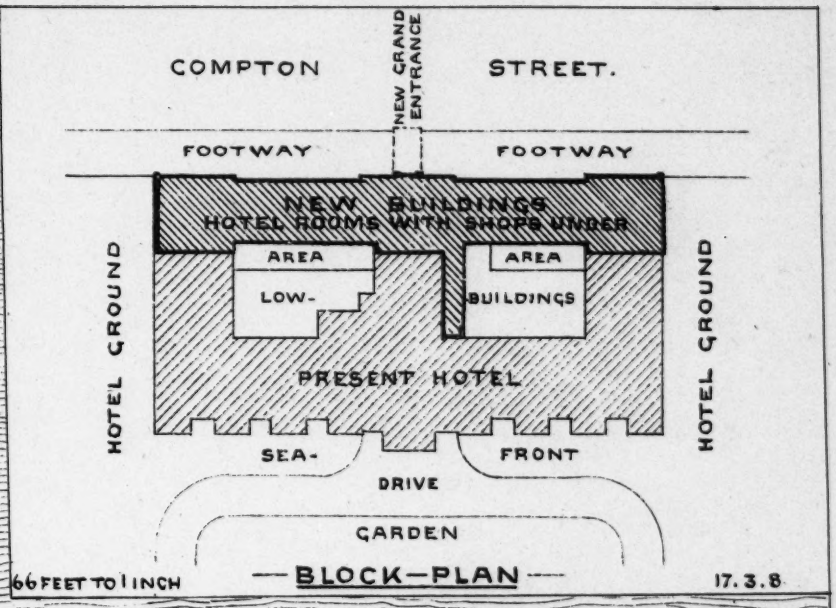
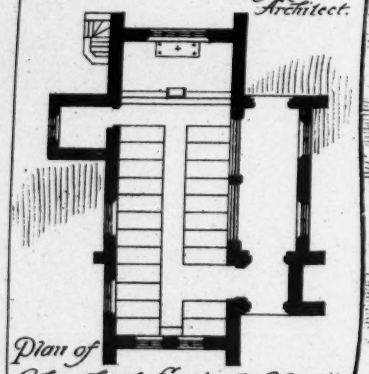


PHOTO-LITHO, SPRAGUE & Co 22, MARTINS LANE, CANNON ST, LONDON, E.C.

ASTBOU[illegible].—Mr. Morton M. Glover, A.R.I.B.A., Architect.

NEW CEMETERY CHAPELS
NEAR ACCRINGTON +
Henry Ross
Architect.



Plan of
Church of England Chapel

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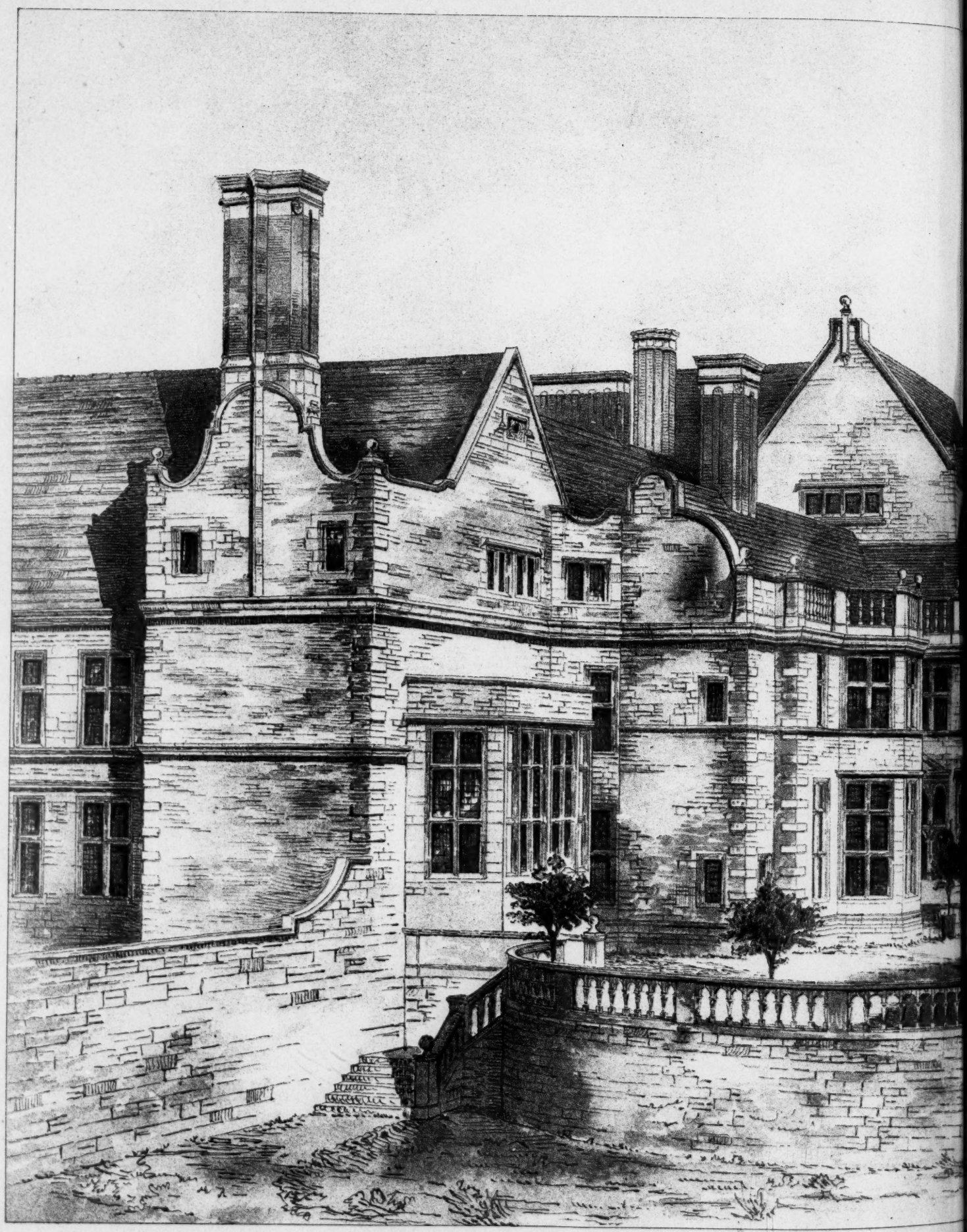


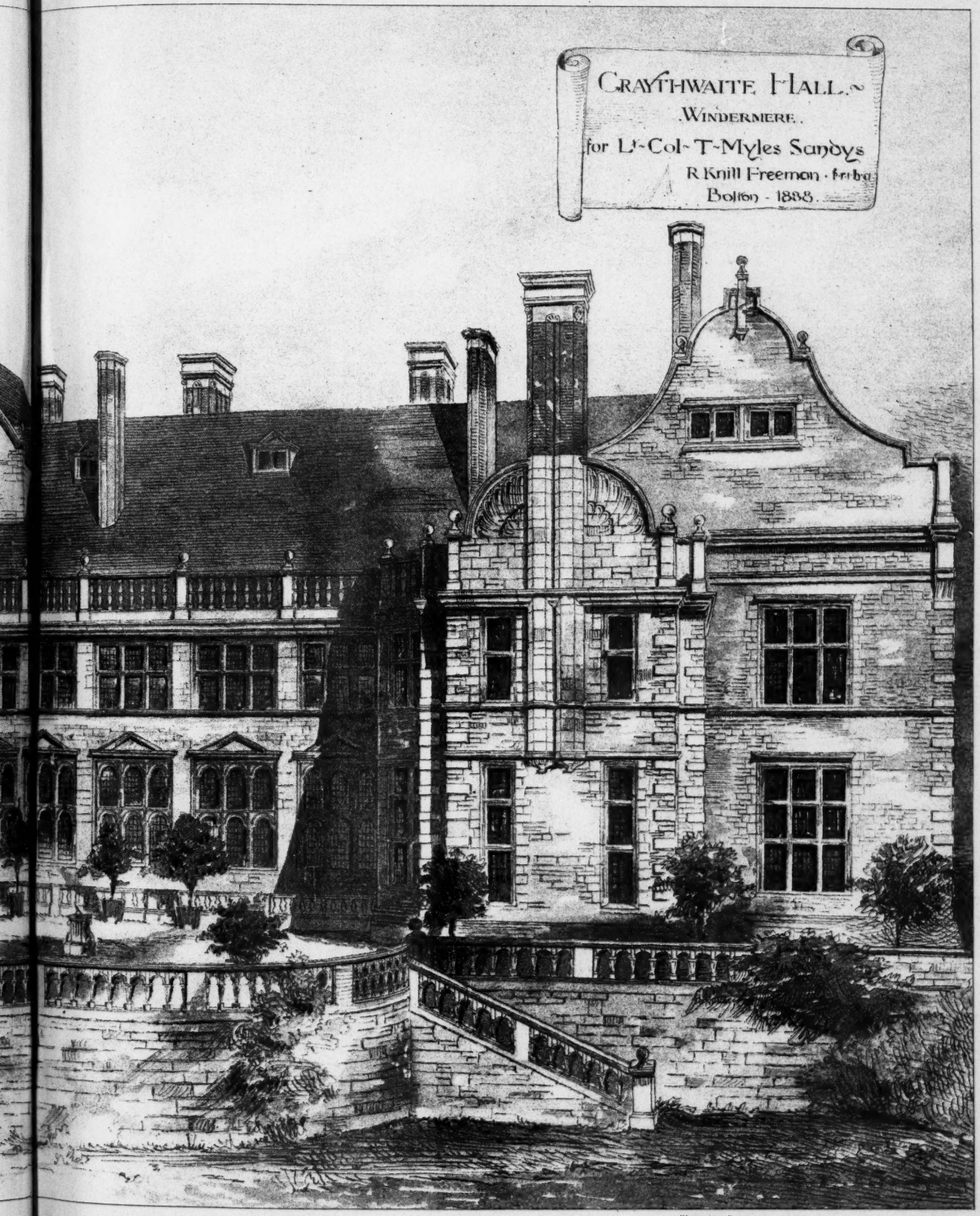
CRAYTHWAITE HALL.

WINDERMERE.

for Lt-Col T Myles Sandys

R. Knill Freeman, F.R.I.B.A.

Bolton - 1888.



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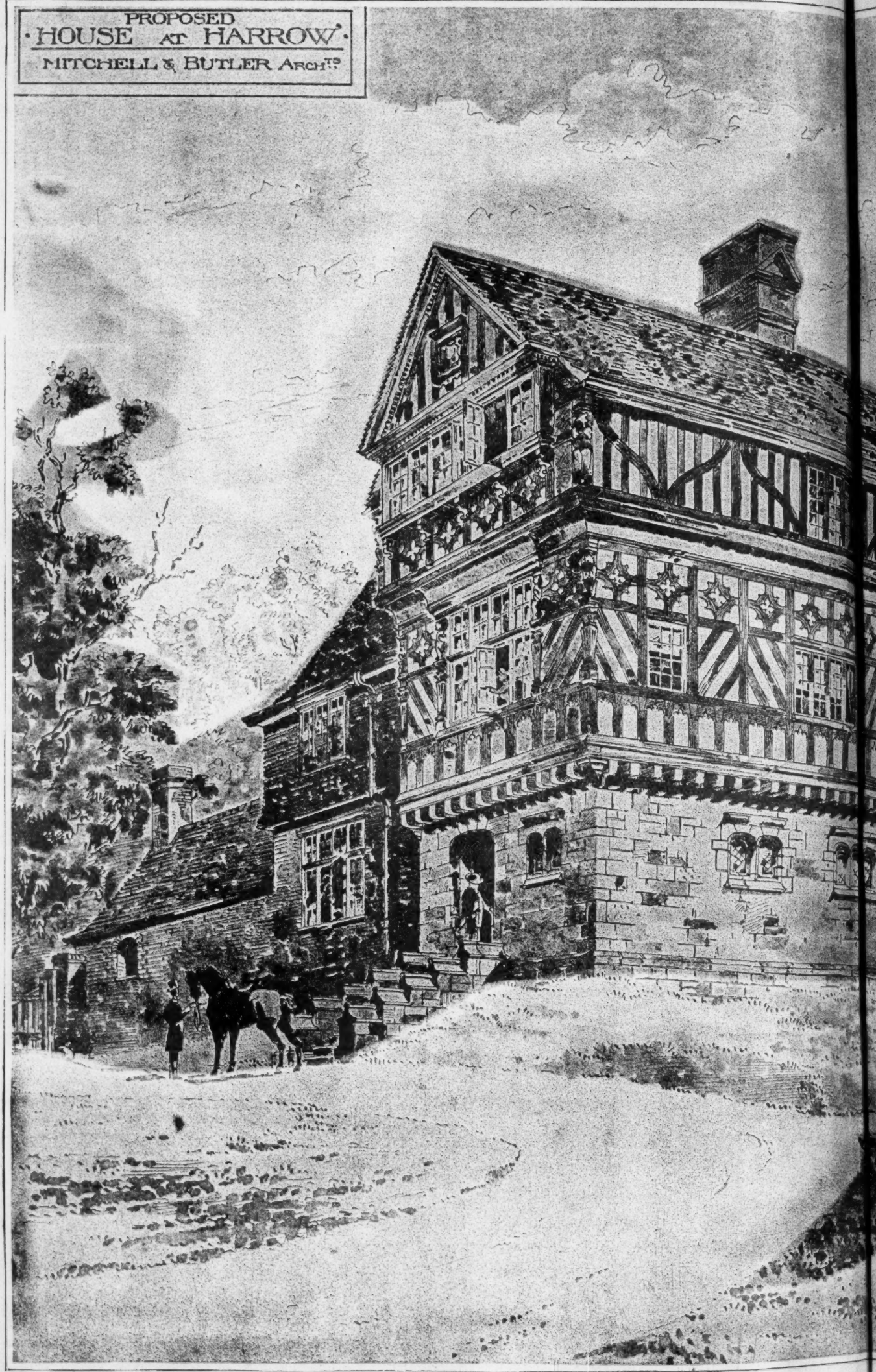
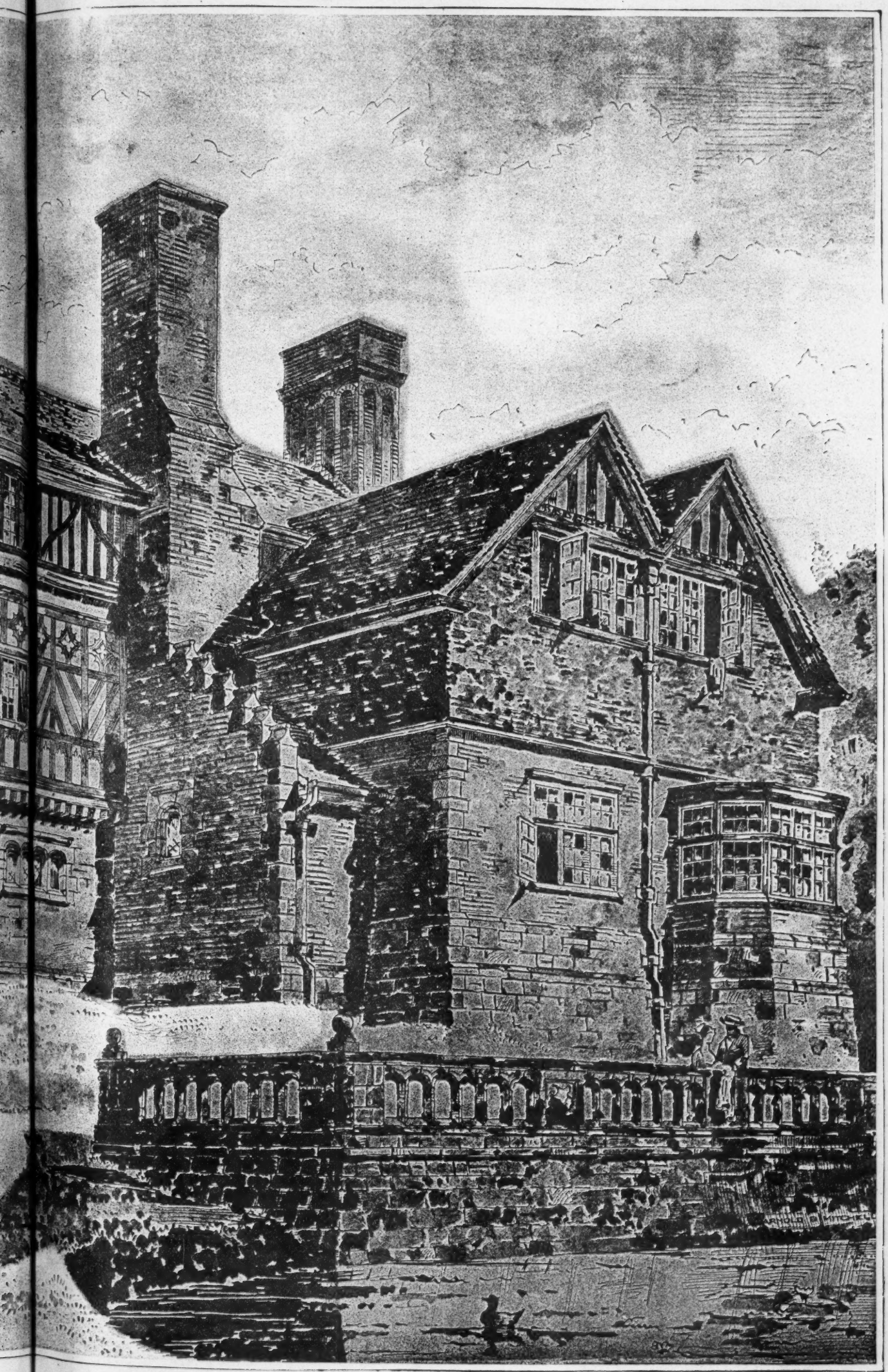
PROPOSED
HOUSE AT HARROW
MITCHELL & BUTLER ARCHTS





The Phototype, Co. 906, Strand, London.

Memorial Statue in Remenham Churchyard, near Henley-on-Thames.—Mr. Charles W. May, Sculptor.

MEMORIAL STATUE, REMENHAM.

THIS sketch is an illustration, drawn by the sculptor, Mr. Chas. W. May, of a monumental figure which has been erected in the churchyard of Remenham, near Henley-on-Thames, in memory of the late Robert Arnold Cosier.

Illustrations.

PROPOSED HOUSE AT HARROW.

ALTHOUGH this house is not to be built at present, and though the design will, in all probability, be considerably modified in execution, we have thought it worth illustrating. The materials proposed to be used are dark red brick with stone dressings for the walling, with light tiles for the roofs and weather-tiling. Messrs. Mitchell & Butler are the architects.

Our illustration is taken from the original drawing now being exhibited at the Royal Academy.

GRAYTHWAITE HALL, WINDERMERE.

THIS mansion, for Col. Sandys, M.P., is about to be erected on the site of the present mansion, situated about midway between the Ferry and Lake-side. The materials proposed are the local grey stone for walling, with red sandstone dressings and red tile roofs. The view now published is from a drawing in this year's Royal Academy exhibition, and shows the terrace, with the dining and drawing room façades. A general view of the design was published in the *Builder* for June 11 last year, from a drawing in last year's Academy. The stables, lodges, &c., are designed to harmonise with the main building. The architect is Mr. R. Knill Freeman, F.R.I.B.A.

THE GRAND HOTEL, EASTBOURNE.

ALTHOUGH some of our watering-places have suffered more or less from the recent bad times and depression of trade, it is a welcome sign of the continued growth and popularity of Eastbourne that all the great hotels in the town have lately been enlarged. Amongst these enlargements are the alterations and additions to the Grand Hotel, now approaching completion, and of which the architects furnish the following description.

The new buildings comprise a new façade, 255 ft. long, towards Compton-street (shown in our illustration), besides various internal improvements. At the pavement level in Compton-street are fourteen shops with basements. The basement of the east-end shop contains the hotel boilers and furnaces, for laundry machinery, steam heating, electric lighting, &c. The west-end shop is a post-office in front, and an hotel bar, approached by a side passage, in rear; and two of the centre shops are allotted to the purposes of a Turkish Bath connected with the hotel.

Above the shops, and separated from them by fireproof construction, are three floors of hotel rooms. On the first floor in Compton-street, which, owing to the fall of the ground level, coincides with the ground-floor of the old hotel, is an entertainment hall, or small dining-room, 36 ft. by 24 ft., with separate entrance, staircase and ante-room, billiard and smoking rooms, and rooms for hotel visitors, which, on this floor, as on the floors above, are arranged some singly, some in suites, and some with bed recesses, separated from the main room by a curtained archway, in Continental style; 104 new rooms altogether.

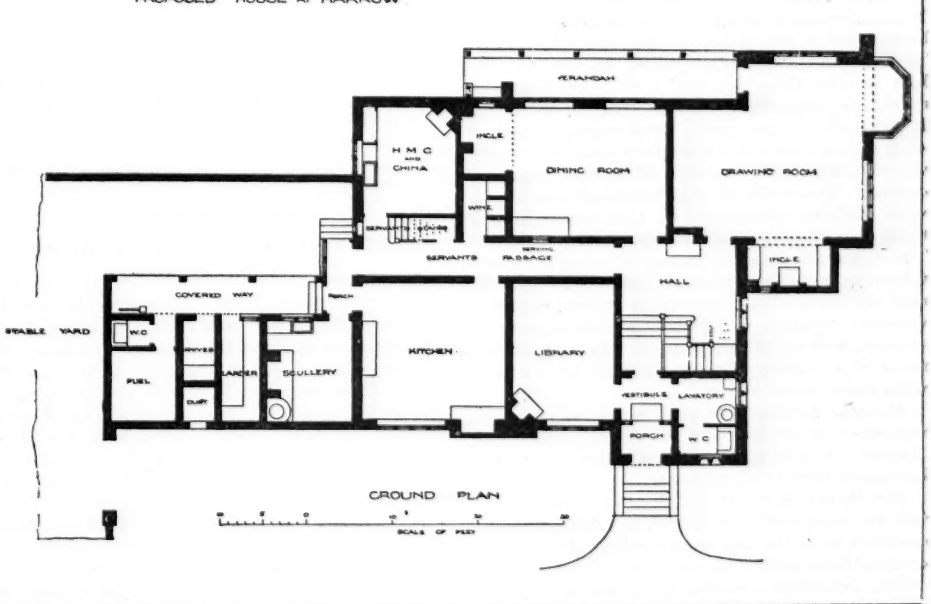
The new entrance-hall, on the Compton-street level, rises through two stories, to the level of the first floor of the old hotel. It is elaborately decorated in Parian cement, with Corinthian above Doric orders, Minton's mosaic floors, and a wide flight of marble steps to the ground-floor level. A feature of this hall is the balustraded bridge across the foot of the staircase, connecting the two new wings, which would otherwise be cut apart on the hotel ground floor by the lofty hall and staircase. The staircase lands visitors in a new central cross corridor, 58 ft. by 8 ft., running alongside, and opening into the great central hall of the old hotel. The other side of this corridor is occupied by the hotel offices, behind a massive mahogany glazed screen. This central corridor is repeated on each hotel floor, and there is also access from the old to the new parts at each end on each floor. Baths and all conveniences, a second lift to the new part, and electric lighting and bells, are provided.

Externally the new buildings, which join to, and are seen with, the old, at each end, are similarly finished, viz., in stucco, in Italian style, with projecting centre and wings, steep-crested roofs, and balustraded balconies.

The whole building, standing as it does on two and three quarter acres of the hotel company's freehold ground, and containing a great hall 41 ft. by 30 ft. by 44 ft. high, a dining-room 120 ft. by 40 ft., and upwards of 360 rooms besides, is amongst the largest and most complete of our sea-side hotels. The main corridors on one uninterrupted level on the first floor measure 710 ft., or 236 yards, or more than a furlong, so that a walk of a little more than seven times round them would be a mile.

The design was first prepared, in 1884, by Messrs. Glover & Salter; but since the dissolution of their partnership, two years ago, considerable changes and additions have been made, and the work is being carried out, as now described, under Mr. Morton M. Glover, architect, of London, by Messrs. Patman & Fotheringham, of London, the contractors. The total cost of the new works, including all fittings, but exclusive of furnishing, will be upwards of 20,000*l*.

PROPOSED HOUSE AT HARROW



NEW BUILDING, CHRIST'S COLLEGE, CAMBRIDGE.

THE new building for Christ's College, Cambridge, of which we give an illustration, is placed on a portion of the master's garden, called in old documents "the Dove House Close," which was acquired by the College in 1566, on a site shown on Loggan's print as occupied by a rectangular pond. On digging for the foundations, the remains of the stakes and oak boarding forming the side of the pond were duly discovered, proving, as in many other instances, the accuracy of Loggan's drawings. The building forms a portion of the side of a court extending to Hobson-street, along which buildings at right angles would be continued, the side of the court towards the Fellows' Garden on the south-east being left

open. The carrying out of the complete plan, however, in the present depreciation of all college property, must probably await the intervention of some pious benefactor.

The building contains twenty-four sets of men's rooms, each with the usual arrangement of keeping-room, bedroom, and gyp-room, with an entrance lobby; and two sets of Fellows' rooms, each with two keeping-rooms and two bedrooms, a small hall or waiting-room with fireplace, and a gyp-room. The architecture of the building is founded on that of the Fellows' buildings of the college, attributed, without any evidence, to Inigo Jones; but the necessity of different arrangements have given it an individuality of its own. The work is substantial, the steps of the stairs formed of solid blocks of oak; the walling is of Ancaster stone, with Ketton and Clipsham for the carving and string-courses. A new departure in the arrangement of college buildings is taken by providing for each staircase a room for the gyp, or college servant, fitted with a sink and stove, with speaking-tubes from each landing, whereby he may be more accessible to the inmates, and where he may do his work, instead of on the staircase landings. Water-closets are also provided in the building, it being possible now, whatever may have been the case in former unsanitary epochs, to avoid all risk of sewer gas inside houses. The contract has been taken by Mr. Bentley, of Waltham Abbey, and it is expected that the buildings will be finished at a cost which will give a fair return for the outlay. Mr. J. J. Stevenson, F.S.A., is the architect.

NEW CEMETERY CHAPELS NEAR ACCRINGTON:

CHURCH AND CLAYTON-LE-MOORS JOINT CEMETERY.

THE chapels which are shown in one of our illustrations are in course of erection, and will form part of a new cemetery now being constructed for the Church and Clayton-le-Moors Joint Cemetery Board. Three separate chapels will be provided, that for the Nonconformists being similar in arrangement, but varied in elevation, to the one illustrated. The Roman Catholic chapel, shown to the left in the drawing, will not have the side mortuary chamber. There will also be a Registrar's house and Board-room, together with substantial stone boundary walls enclosing the site, which is upwards of twelve acres in extent. The walls of the buildings are faced with Halifax pierpoints in thin courses, and have dressings from the local quarries at Read. The stone for window tracery is being obtained from the neighbourhood of Keighley. All the roof timbers, where seen from below, and the boarded ceilings, which are semi-octagonal in section, will be of pitch pine, left as it comes from the plane. The roofs will be covered with thick green slates.

Messrs. Lewis, of Great Harwood, are the mason-contractors for the buildings, and Messrs. Cunliffe, of Accrington, for the boundary walls and entrance.

Mr. Henry Ross, of Accrington, is the architect in charge of the works, his design being selected in a limited competition, Mr. France, of Bradford, acting as assessor.

The completed works, inclusive of the site, will cost upwards of 8,000*l*.

THE NEW BY-LAWS OF THE INSTITUTE.

A SPECIAL General Meeting of the Royal Institute of British Architects was held on Monday last, to consider the Draft By-Laws made under the provisions of the Supplemental Charter; Mr. Arthur Cates (the new Vice-President) occupied the chair. The meeting was very unanimous, and all the New By-laws were passed, after some amendments.

The constitution of the Council is as follows:—

BY-LAW 24.—The Council shall consist of not more than thirty-six members, viz.:—(*a*) The President, four Vice-Presidents, an Honorary Secretary, eighteen members of the Council, and two Associate Members of the Council; (*b*) Chairmen for the time being of branches of the Royal Institute within the United Kingdom established as hereinafter provided; (*c*) Presidents for the time being of societies within the United Kingdom in alliance with the Royal Institute, as hereinafter provided, such Presidents being Fellows of the Royal Institute; (*d*) One Fellow or Associate of the Royal Institute as representative of The Architectural Association (London).

The Council are to be annually elected by balloting-papers, Fellows, Associates, and Hon. Associates,—in fact, all subscribing members,—being eligible to vote for them. Power has also been taken to appoint outside Examiners, not members of the Institute, to assist the Examination Boards, as follows:—

BY-LAW 41.—The Council shall annually appoint a Board of Examiners in Architecture, the members of which shall consist of Fellows of not less than five years' standing; and the Council may from time to time appoint such other persons as they may consider necessary, whether members of the Royal Institute or not, to assist such Board in the conduct of Examinations in Architecture.

BY-LAW 42.—The Statutory Board or Boards of Examiners appointed by the Royal Institute under the provisions of the Metropolitan Building Act, 1855, and other Acts of Parliament, shall consist of Fellows of not less than seven years' standing; and the Council may from time to time appoint such other persons as they may consider necessary, whether members of the Royal Institute or not, to assist such Board or Boards in the conduct of Statutory Examinations."

Two other By-laws agreed to on Monday last are important, namely:—

Students.

BY-LAW 64.—Every student who has passed the examination for that grade, instituted or to be instituted by the Royal Institute, and shall have satisfied such other requirements as the Council may from time to time prescribe as applying to students, shall be entitled to the designation of "Student of the Royal Institute of British Architects," subject to such conditions and to such restrictions as to continuance as the Council may determine, and a register of such students of the Royal Institute shall be kept, setting forth their names in the chronological order in which they have passed.

Temporary By-law.

The present Council shall remain in office only until the close of the first General Meeting following the election of a new Council, which new Council shall be elected as soon as may be after these By-laws shall have been approved by the Lords of the Privy Council; and for the purposes of such election the Council shall, with all reasonable expedition, after the approval of such By-laws, take the necessary steps to secure the immediate election of a new Council.

At the conclusion of the meeting a resolution was passed authorising the Council to submit the new By-laws as adopted to the approval of the Lords of the Privy Council.

A vote of thanks to the Chairman brought the proceedings to a close.

EXHIBITION OF WORKS IN WOOD, CARPENTERS' HALL.

THE second exhibition of works in wood, under the auspices of the Worshipful Company of Carpenters and the Worshipful Company of Joiners, was opened at Carpenters' Hall, London Wall, on Saturday last, and it will remain open until June 2. There are upwards of one hundred groups of exhibits, which are displayed in the large hall and in the ante-room, but not in consecutive order. We cannot say that the exhibition contains anything very striking in the shape of technical workmanship, nor is it as large as we should have liked to see it. There is a good deal of excellent work by skilled workmen and apprentices to be seen, it is true; but there is also a larger proportion of amateur work (some of it very poor in character) than we should have thought would gain entrance to such an exhibition. There is an interesting loan collection, however; so that, notwithstanding the foregoing remarks, the exhibition is well worth a visit. It will remain open daily until the date mentioned from 10·30 a.m. to 5 p.m., except on Wednesdays and Saturdays, on which days it will remain open until 9 p.m. Admission to it is free.

Mr. G. H. T. Smither (exhibit No. 3, the items of which are, however, scattered "here, there, and everywhere," almost) shows a very good collection of large-scale models and drawings of roofs of various types, for which he takes three prizes and two medals. Mr. J. Kempton (exhibit No. 5) shows a new method of scarfing, for which he takes a second prize. No straps, bolts, spikes, or iron plates are required by this method. Mr. W. Metcalf (exhibit No. 6) takes first prize and a medal for a model of a bowstring girder suspension bridge, all in wood with the exception of the iron suspension-rods. Mr. G. G. Morlin (No. 7) has been awarded a prize for a very well made model of a centering for a groin. The same exhibitor takes a second prize and medal for three good specimens of framing. Mr. C. T. Aston (No. 8) has been awarded a first prize and medal for his very excellent model of a groined centre, and a second prize for horizontal and raking shores, an important practical subject to which we were glad to see that at least one exhibitor has turned his attention. Mr. H. Staynes, who is so well known as the teacher of the classes for carpenters and joiners at the Finsbury Technical College, exhibits (No. 9) eighteen admirable specimens of work illustrating as many joints used in carpentry, for which he deservedly takes a first prize and medal. Extra prizes are given to Mr. W. E. George (No. 10) for a model of a staircase, and to Mr. W. J. Barnikel (No. 11) for three models of handrail wreaths. Mr. T. Harper (No. 12) exhibits a well-made model of a staircase, for which he has been awarded a second prize. A first prize and medal have gone to Mr. W. A. Cross (No. 14) for a sash and frame, involving "circular-on-circular" work, the sash being curved on plan and with a semicircular head. An extra prize has been given to Mr. T. Jacob (No. 16) for a fern-case for window. F. J. Oldman (No. 18), an apprentice, takes a medal for a model of a sash door; and another apprentice, L. B. Bagot (No. 19) is similarly rewarded for a model of panelling. Other awards are: No. 23, A. H. Castle (apprentice), medal for a bookcase; No. 24, W. C. Phipps, extra second prize and medal for a cabinet with clock; No. 26, J. W. Forth, second prize for an over-mantel (not "over-*mantle*," as the catalogue more than once has it); No. 27, C. Tester (apprentice), medal for frame for a looking-glass; No. 29, M. Halford, first prize and medal for a cabinet; and No. 76, F. Chamberlain, second prize and medal for model of cofferdam, Forth Bridge Works,—a very good and instructive model of a kind of which we could wish there were more in the exhibition: mementoes of such structures as the special scaffolding sometimes required for the erection or repair of important structures would often be worth preserving in this way. But we cannot mention all the awards.

Among other exhibits worth inspection by visitors is No. 15, Mr. E. Harris's "reversible rule-jointed sliding sash and frame," which, if it can be made weathertight, is likely to become useful. Both top and bottom sashes can easily be cleaned from inside, and both can be held open, louvre-fashion, at any angle. Somewhat akin to this exhibit is No. 93, described as "a new method for sashes and frames," lent by Mr. W. T. le Sauteur, but whether devised by the lender is not stated. Briefly described, the new method consists of ordinary single-pane sashes *minus* the meeting-rails. Where the meeting-rails would otherwise come the sheets of plate-glass are curved, that of the lower sash over and outwards, that of the upper sash under and inwards, so that the two glass curves overlap, without the possibility of meeting or touching, however. When the sashes are closed there is thus left a narrow slit, through which fresh air can enter the rooms, while any condensed moisture upon the inside of the upper sash can readily escape.

There are a great many specimens of carved work sent in competition, some of them very good. The loan collection also includes a great deal of carved work, including some fine old chairs lent by Mr. C. J. Shoppee, Mr. F. H. Fowler, Mr. Banister Fletcher, and other gentlemen. We spoke at the outset of the presence of amateur work. As a specimen of what we mean, we may name the so-called "model of sentry-box" (No. 20), in mahogany, but fitted with a lock-up door and filled inside with a number of drawers, which will not pull out when the door is opened at right angles, but only when it is turned right back. It is really a cabinet, badly designed and arranged, and therefore not well adapted for its purpose. Even more ridiculous is No. 74, a childish travesty (for it is certainly not a "model") of a pianoforte. It is ill-proportioned and inexact. Its keyboard has only twelve white keys, with the black ones painted on to them! No. 81, a model of a locomotive and tender, made of wood, is another amateur work, and although fairly successful, it is needless to say that it could have been more suitably made, and would have looked much better, in metal.

But, on the whole, as we have said, the exhibition is a very interesting one, and well worth visiting. The Carpenters' and Joiners' Companies deserve credit for its organisation,

and it is to be hoped that it will further their laudable efforts for the advancement of technical education, some results of which, by the bye, are to be seen in a collection of exhibits of work done by young lads at the Company's technical institute at Stratford.

THE GREEK THEATRE.

THE third lecture by Sir C. T. Newton, on May 4, dealt with the dramatic performances of the Greeks.* Of the Dionysiac festivals, with which these were inseparably connected, the rural Dionysia were the oldest, and from them dated the origin and development of the drama. About the time probably of Peisistratos, B.C. 536, the Lenaia were introduced, distinguished by the art of Thespis, and for a long time these remained the only Dionysiac festivals with plays. Finally the great Dionysia were added, probably after the expulsion of the Persians, B.C. 480, and this festival laid the foundations on which dramatic art reached perfection: as late as Imperial times tragedies were still performed at the Lenaia, though already by the third century B.C. the performances were no longer regular.

As early as B.C. 458, the comic drama was combined with the tragic performances, as we know from an inscription which couples a victory of Magnes with one by Æschylos. At the Lenaia there must originally have been tragic performances, but after the institution of the Greek Dionysia these ceased for some time, and were only renewed at intervals, until latterly comedy became the special entertainment here; we know that the principal comedies of Aristophanes were brought out at this festival, as well as those of other poets, down to the time of the new comedy. At the rural Dionysia both tragedies and comedies seem to have been performed, but only in certain demes, and it may be asserted that after the full development of the Dionysiac cycle of feasts there were only two which had dramatic representations.

It is uncertain whether at the earliest Lenaia a regular contest was instituted, but in view of the Greek love for competitions this seems probable; judging from the great number of pieces assigned to Chœrilos, and the length of his life, it seems likely that he must have contended with more than one tragedy at a time; the perfection of the Æschylean trilogy, moreover, would point to a gradual development, rather than a sudden change from the single drama. At the chief Attic festival of the Great Dionysia, the competition lasted three entire days; in the best period, as the *didaskalia* show us, three poets as a rule contended; but in the fourth century B.C. the number was increased. Thus in B.C. 389-8, Aristophanes had four competitors, and later still, inscriptions speak of five comic poets as contending. It is uncertain whether the comic *agon* preceded or followed the tragic, the evidence on this point being divided. As time went on, the character of the competition underwent various changes. Sophocles introduced trilogies, of which the different parts were disconnected. In the fourth century, contest with tetralogies was abolished; and later still, each *agon* included, beside the new pieces, a single tragedy by an old master; thus by a special law, the tragedies of Æschylos were always regarded as new; and this change applies to the comic *agon* as well. At the great Dionysia, the conduct of the *agones* was in the hands of the "Archon Eponymos"; at the Lenaia, which only lasted two days, the "Archon Basileus" had the direction. At the rural Dionysia, each Demarch presided in his deme; only plays were given which had already been brought out in the city, and there was no regular *agon*.

The number of actors on the Greek stage was, since the time of Thespis, limited to one; Æschylos added a second, and Sophocles a third; these undertook the female parts and also a variety of personations, indicated by a change of costume. In early times the poets themselves sometimes acted; Sophocles appeared on two occasions,—as Nausicaa playing at ball, and as Thamyris playing on the harp; his ball-playing was much admired, but his music had to be given up. We know of twenty-two actors whose names are handed down in literature or anecdote; three of them are said to have instructed Demosthenes, whose great rival Æschines is known to have begun life as an actor, but who was hissed off the stage. Under the Hellenistic rulers the profession seems to have been in great esteem, and we read of instances in which its members were even employed in a semi-diplomatic character.

The training of an actor was of the most varied kind, including singing, gesture, and dancing; but above all things, the cultivation of the voice was of supreme importance; it must be powerful and clear on account of the great size of the theatre, and flexible to enable him to undertake the various parts. The different systems of gesture, *schemata*, are described by Quintilian, and may be partially studied in the Pompeian mural paintings and the Greek painted vases; movement in the tall buskin of tragedy was probably difficult, and violent scenes seem to have been avoided, but in comedy the movement was livelier. After the time of Euripides a tendency to realism seems to have crept in, so much so that Aristotle, in his treatise on "Rhetoric" remarks that in the dramatic contests of his time the actors had more power than the poets who composed the plays.

The old dithyrambic choros had consisted of fifty persons, and when this was transferred to the tragic tetralogy it gave a choros of twelve for each piece, a number which was increased by Sophocles to fifteen, and this number was probably the same for the satyric drama. Instead of the old circular form the dramatic choros stood in a square, with the handsomest *choreutæ* in the front rank. They entered singing the *parodos* and preceded by a flute-player, either during or after the prologue, or in some cases were discovered on the *orchestra*, as in the "Persæ," or on the stage, as in the "Eumenides."

The *choregia*, that is, the defrayal of the cost of dramatic contests, was first granted to tragedies after the time of the Peisistratidæ, and to comedies B.C. 467. Soon after each festival the tribes submitted to the archon the name of a citizen suitable to fill the office of choregos. His duties were to engage a choros, to provide a place for their rehearsals, *choregeion*, to furnish costumes and masks, and to arrange for their maintenance during the preliminary drill. He also found a trainer, *kykliodidaskalos*, unless the poet himself undertook this duty. This functionary might either be chosen by him, or, like the flute-player, be chosen by the tribe by lot. We know that in B.C. 411 a tragic choros cost 3,000 drachmæ, or about 120*l*., but we do not know anything of the items. Many choregi took a pride in bringing out a choros with more outlay than was necessary; others, who spent too little, were proceeded against by the Archon, and in some cases, we are told, were publicly scoffed at in the theatre. If he won, he was crowned and received a bronze tripod at the public expense, which he afterwards dedicated, either on the slope of rock above the rows of seats, or else in the street running round the city, which was called, on this account, the "Street of the Tripods." In the inscriptions on some of these dedications which have come down to us, we learn the names of the winning tribe, of the choregos, the flute-player, archon, and didaskalos, in the fourth century. After the disasters of the Peloponnesian War, we find two tribes or two choregi combining to share the expense of one *choregia*, and in the inscriptions of this period the name of the choregos stands first. Later still, B.C. 316, the State undertook the *choregia*, and appointed a commissioner (*agonothetes*), who arranged everything, and furnished accounts at the end of his year of office. In the last two centuries B.C. we have no mention of a *choregia*; but it reappears in Imperial times, associated with the *agonothetes*, as of old.

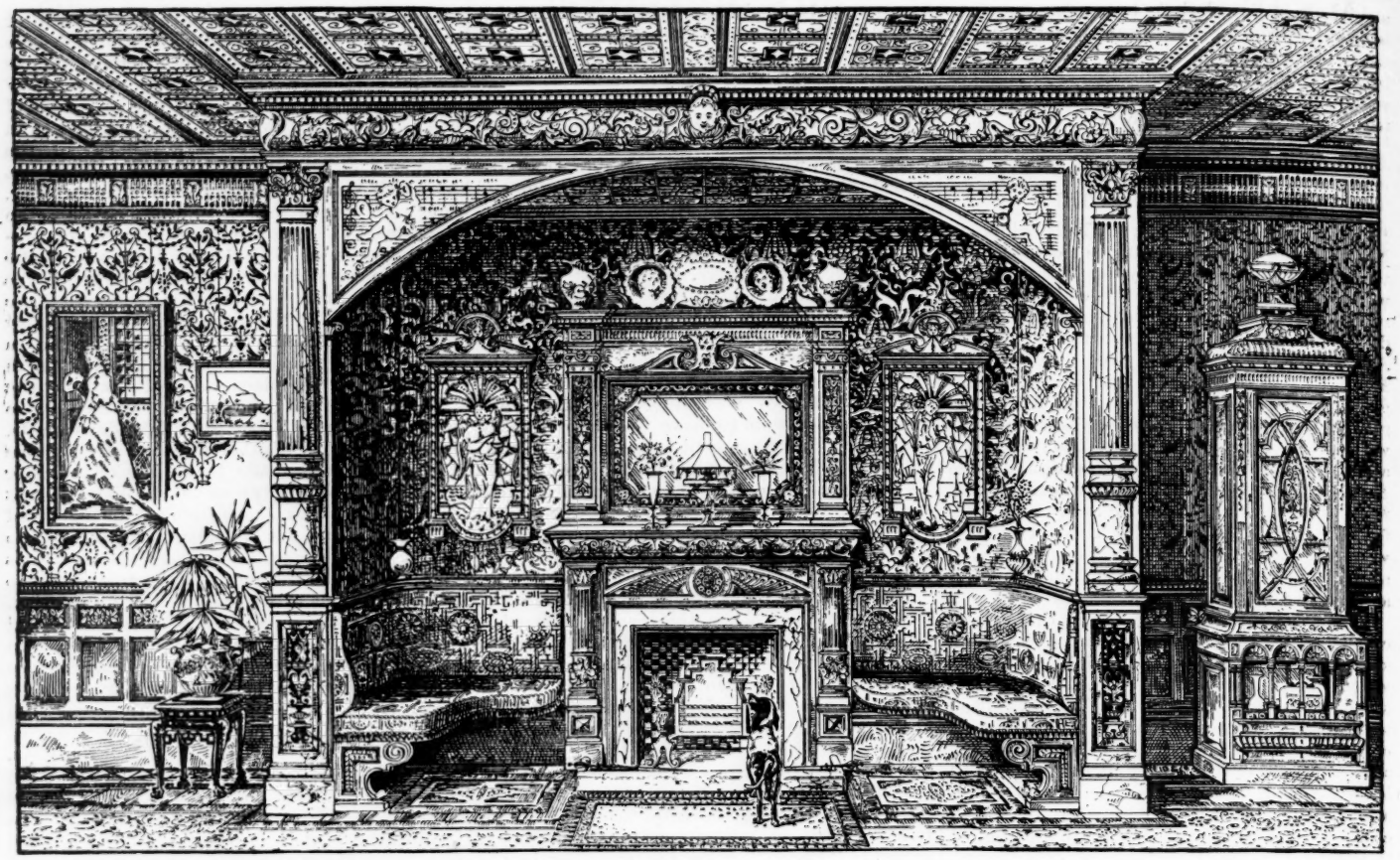
With the choregia thus restricted, the tragic choros must have been in danger of abandonment; and we know that about B.C. 400, choral songs began to be introduced which had no connexion with the subject of the piece; it seems, however, to have lasted until the time of Aristotle, B.C. 347, and as late as B.C. 284, at any rate, there was a satyric choros in Athens. The comic choregia ceased after the Peloponnesian War, either in consequence of political misfortunes, or at the instance of persons who suffered under the ridicule of the comedians.

To avoid being burdened with a direct control over the theatre, the State let it on lease to a lessee, called *theatrones* or *architekton*, who fixed the amount of entrance money according to the amount of his obligations under the lease, so as to allow a profit after payment of rent and repairs, and after providing probably the scenery and costumes of the players and the pay of the workmen employed. We possess a document in which the deme, as owner of the building, concludes a contract with four lessees, who undertake to hold the lease jointly for unequal shares of 600, 1,100, 500, and 1,100 drachmæ respectively. The salaries of the players, as well as free seats, seem to have been provided by the State, and the State also presented each poet who competed with an honorarium, probably a considerable sum, in proportion to the place assigned to him by the judges. Originally the entrance to the theatre was free. From about B.C. 500 downwards, for one reason or another, a charge of two obols (about 3d.) was made for admission. Under Pericles, probably about B.C. 455, it was decreed that this charge should be defrayed by the Treasury out of the tribute paid by the allies. This "Theoric Fund" existed as late as B.C. 409, but in the succeeding period we have no evidence as to its existence or application. Grote has shown in a masterly passage the real character of this fund, which was neither an alms-giving nor yet a mere expenditure for the public pleasure. It was essentially religious in motive and application, the "Church Fund," on which were charged all expenses incurred in festivals and worship of the gods, and which enabled every citizen present in Attica, both rich and poor, to attend the festival and do honour to the god. To this fund the surplus of ordinary revenue was paid over, after the cost of the peace establishment had been defrayed. "There was no appropriation more thoroughly coming home to the common sentiment, more conducive as a binding force to the unity of the city, or more productive of satisfaction to each individual citizen; and it was made without scruple under the conspiring impulses of piety, pleasure, and social brotherhood."

* For reports of the first and second lectures see pp. 318, 341, *ante*.

THE ESSEX COUNTY LUNATIC ASYLUM, BRENTWOOD.

THE recent additions to this Asylum were visited on Saturday last by the Architectural Association, when the members were escorted by Mr. Henry Stock, County Surveyor, the architect of the new buildings, and Dr. Amsden, the medical superintendent. The asylum is picturesquely situated on high ground, to the south of Brentwood, and on the brow of the plateau occupied by the older portion are placed the new buildings, the site devoted to which is a long and narrow slip, at one end of which the ground falls rapidly away, thus presenting considerable difficulties to the architect. The plan is arranged on the "pavilion" system, with main service corridor running north and south, from which are corridors at right angles leading to each block. At the north end is the workshop block, at the south end the epileptic block, in the centre the dining-hall, with a three-story block on each side, and the infirmary beyond. The pavilions differ in size and shape, but comprise in each case gallery with bay and single rooms, day-room and associated dormitory, together with attendants' rooms, stores, lavatory, and bath-room. The pavilions have a stair at each end to facilitate escape in the event of fire. A general bath-room is provided in addition to the single bath attached to each ward, and every bath is fitted with a "lock lever asylum valve" to prevent hot water being turned on before cold water is admitted. The dining-hall, providing accommodation for 420, is 100 ft. by 40 ft., and surrounded on three sides by a wide corridor, arranged, at the instance of the Commissioners in Lunacy, to serve as a smoking-room for the patients, and thus obviate the necessity of allowing smoking in the day-rooms. This arrangement has forced the architect to light the hall by windows at a high level, and to do this without increasing the height of the room he has ingeniously contrived the framing of the roof, which has the appearance of a collar-beam roof with the collar continued beyond the principals to the side walls, and covered by a continuous flat roof. This has been done with the express purpose of keeping the roof low, though probably no greater expense would have



Mantelpiece and Recess in Drawing-room of a House at Castle Carey.

been incurred by placing the feet of the principals at the level of the present collars, and adding thereby to the height of the hall. The kitchen department, with bakery, larders, stores, &c., is placed at the rear of the hall, which is served by a hatch and three doorways. The kitchen is fitted with steaming pans and closets, open range, and gas-cooking apparatus, supplied by Messrs. Baily. The bakery has ordinary side furnace ovens by Messrs. Smith & Son.

The new range of buildings is intended to provide for 450 male patients, as an accessory to the older establishment, which will in future be devoted entirely to female patients, and the whole asylum will then accommodate 1,400 inmates in all. Accordingly, the new addition is complete in itself, with receiving and porters' rooms, consulting and chaplain's rooms, residence for the assistant medical superintendent, steward's store and office, mortuary, and *post-mortem* room. The present laundry has, however, been enlarged to meet the requirements of the whole establishment, but having several times undergone transformation, cannot be considered as a perfect example. In the new buildings the heating is effected by low-pressure hot water and open fire-places in all wards except those for suicidal and epileptic patients. The ventilation is entirely natural, deep-rail sashes being provided for inlets, and flues in chimney-stacks for outlets. Externally the new additions are treated in red brick, with tile roofs to harmonise in colour with the older structure, which is of a manorial type and picturesque grouping. Mr. Stock has, however, not been allowed to spend money in ornament or decorative features, hence the new buildings appear somewhat plain by comparison. Possibly a further result of unwise economy may be seen hereafter, should it be found that the percentage of patients discharged as cured is less than the 40 per cent. of previous experience at this asylum, for there can be little doubt that every pound spent in good architecture for buildings of this class yields full interest on the capital expended.

Professional Examinations, Surveyors' Institution.—We are asked by Mr. Julian C. Rogers, the Secretary of the Surveyors' Institution, to say that owing to the large number of papers to be dealt with, the Council are not able, as they hoped, to announce the results of the recent professional examinations in this week's number of the *Builder*.

MANTELPIECE AND RECESS IN DRAWING-ROOM OF A HOUSE AT CASTLE CAREY.

THIS chimneypiece has been erected in the drawing-room of the house just erected for Mr. J. S. Donne, from the designs of Mr. Charles Bell. It is executed in satinwood and Italian walnut, and the whole of the carving is in solid relief, with Italian onyx mountings. The whole of the work has been executed by Messrs. Reid & Co., who have also carried out the rest of the internal fittings under the directions of the architect.

THE SOCIETY OF ENGINEERS.

AT a meeting of the Society of Engineers, held at Westminster Town Hall, on Monday evening, May 7, Mr. A. T. Walmisley, president, in the chair, a paper was read on "Filtration by Machinery," by Mr. Edward Perrett, A.M. Inst. C.E.

The paper first compared the processes of straining and filtering, and pointed out that in the latter process the mutual attraction of particles of matter, in addition to the straining action, causes the retention of the suspended material in a liquid passing through the filtering medium. After describing the early experiments made by the author in filtering Thames water through filter bags, such as are used for the filtration of sugar, the paper pointed out the danger of using animal charcoal for the filitration of drinking water. This material has the power of taking out matter in an infinitely fine state of division and even in solution, the charcoal becoming so charged with such matter that nothing short of subjecting the charcoal to a red heat is sufficient to thoroughly clean it. An animal charcoal filter with any system of washing will gradually accumulate the very fine matter, which may germinate, and at length be carried through with the filtered water. A filter with a granular medium (such as crushed retort coke), designed by the author, is effectually cleaned by an upward stream of compresed air occasionally applied; this causes an agitation of the material, and the attrition loosens the dirt, which a small current of water washes away. At a waterworks in South America, where these filters are used, 20,000 gallons of river water are filtered per hour, the floor space covered being 37 ft. by 7 ft. 6 in., or an average rate of nearly 100 gallons per square foot of filtering surface per hour.

The purification of water containing organic matter by contact with iron was mentioned. The original method of using Professor Bischoff's "spongy iron" on a large scale was to mix the spongy iron with gravel, and to use this mixture as a filter bed, but it was found that the top surface became hard and impervious after a short time, and Mr. Wm. Anderson introduced a machine to supersede these spongy iron filter beds. His "revolving purifier" causes ordinary iron borings to be mixed with the water as it passes through the machine; the water is afterwards filtered through ordinary sand beds.

For the filtration of very muddy water for manufacturing purposes, sponge is used by the author. The machine consists of a cylindrical casing, in which sponge is compressed between two diaphragms; the lower diaphragm is movable and attached to a piston rod, which passes through the top cover. To clean the sponge an up-and-down motion is given to the lower diaphragm or piston, thus alternately compressing and releasing the sponge. These filters will render Thames water at London clean enough for boiler-feeding or other manufacturing purposes, at the rate of about 100 gallons per square foot of surface per hour. The precipitate resulting from the processes known as "softening" water is now generally extracted by filtration. The material used for this purpose is the filter-cloth referred to at the commencement of the paper, as the chalk deposit may accumulate to a considerable thickness before it becomes impervious. In this case the deposit is easily removed; the author finds that simple external jets of water are sufficient for the purpose.

Gaseous and Liquid Fuel.—Under the title of the Gaseous and Liquid Fuel Supply Company, Limited, a company has just been registered to take over the patents of Mr. B. H. Thwaite, C.E., F.C.S., of Liverpool, for generating water gas, and other descriptions of gaseous fuel, for gas motors, gas furnaces, and for heating purposes generally, and for application of Mr. Thwaite's patents for heating and lighting with liquid hydrocarbons. It is stated that the company will establish a fuel-testing laboratory, and act as guarantors against smoke-nuisance fines.

ARCHITECTURAL SOCIETIES.

Birmingham Architectural Association. — At the ninth ordinary meeting of this Association for the current session the following gentlemen were elected to serve as the officers for session 1888-9: — President, Mr. T. Naden; Vice-President, Mr. W. Doubleday; Ordinary Members of Committee, Messrs. H. Beck, H. H. McConnal, F. B. Peacock, W. H. Kendrick, T. W. F. Newton, C. E. Bateman, and V. Scruton; Treasurer, Mr. A. Reading; Hon. Librarian, Mr. W. H. Bidlake, M.A.; Hon. Secretary, Mr. H. R. Lloyd; Hon. Auditor, Mr. A. T. Powell; and Hon. Solicitor, Mr. A. R. Lynex. A cordial vote of thanks was accorded to the Past-President, Mr. F. B. Osborne, and to the Past-Secretary, Mr. V. Scruton, for the disinterested manner in which they had worked for the Association during their four years' term of office.

Sheffield Society of Architects and Surveyors.— The annual meeting of this society was held on the 8th inst. at the School of Art. Mr. T. J. Flockton presided, and there was a large attendance of members, including Messrs. F. Fowler, C. Hadfield, E. M. Gibbs, C. J. Innocent, J. D. Webster, J. B. Mitchell-Withers, A. Scargill, W. F. Hemsoll, J. Smith, G. F. Terry, W. C. Fenton, E. Holmes, T. Winder, A. F. Watson, J. T. Wheen, J. E. Benton, J. M. Clarke, J. D. Wightman, and R. Sellors (Worksop). Mr. W. T. Brown (Worksop) was nominated by the President for election as Associate. Letters from the secretaries of the Royal Institute of British Architects and the Architectural Association, inviting alliance with their bodies, were referred for consideration to the Council, who were asked to report to a general special meeting of the society, to be held on the 15th inst. The report and balance-sheet were then read over. The former showed that the society now consisted of forty-seven Fellows, twenty-six Associates, and five Students. The balance-sheet showed that there was a balance in the bank of 24*l.* 5s. 9d. Mr. Flockton, in moving the adoption of the report, referred with satisfaction to the steady progress achieved by the Society during its first session, and enlarged upon the action of of the Council in giving careful consideration to the proposed new by-laws for regulating the streets and buildings in the borough. This subject had received the earnest consideration of the Council, who regarded it as most important to the future of the street improvements and architecture of the town. He stated that a letter, containing certain suggestions with regard to the draft by-laws as to new streets and buildings, had been sent to the Town Clerk and laid before the Highway Committee, who, after consideration, had passed the following resolution: "That the Council of the Sheffield Society of Architects and Surveyors be respectfully requested to forward their suggestions on the proposed new bye-laws to the Local Government Board, before whom the draft of such bye-laws now is." The report and balance-sheet were adopted, and a vote of thanks to the retiring officers, on the proposition of Mr. Hemsoll, was carried. The President, and Messrs. F. Fowler, J. B. Mitchell-Withers, and W. C. Fenton returned thanks. The Chairman, before proceeding to the election of officers, announced that, owing to official business engagements, Mr. W. C. Fenton wished to retire from the position of hon. secretary. He expressed his regret, which would be felt by all the members, and spoke highly of the earnest and thorough way in which Mr. Fenton had performed his duties. The balloting was then proceeded with, and the following officers elected for 1888-9:— Messrs. T. J. Flockton, President; F. Fowler, vice-president; J. B. Mitchell-Withers, treasurer; C. Hadfield, hon. secretary; and Messrs. E. M. Gibbs, W. F. Hemsoll, C. J. Innocent, J. D. Webster, and E. Holmes, members of Council.

A Torpedo Range at Horsea Island, Portsmouth, costing 100,000*l.*, has just been completed, and taken over by the Vernon Torpedo School. The range,—some half mile in length,—has been constructed for experimental purposes in connexion with the discharge and flight of torpedos, and with its canal, lock, quays, wharfs, tramways, firing pier, offices, &c., forms a prominent feature in the view of Portsmouth Harbour as seen from the surrounding heights. Messrs. S. Pearson & Son, of Westminster, were the contractors for these works.

ARCHITECTS AND THEIR CLIENTS.

ALLEGED NEGLIGENCE.

AT the Manchester Winter Assizes, in February last, an action was brought by Messrs. E. Corbett & Sons, architects, of Manchester, who now carry on business under the title of J. & C. G. B. Corbett, against Messrs. Richmond & Chandler, of Southall-street, Strangeways, agricultural implement makers, to recover balance of their commission for work done as architects for the defendants in the erection of new premises in Southall-street. The defence was an allegation of negligence on the part of Messrs. Corbett in taking out quantities and measuring up the work on completion, resulting in certificates for payments to contractors alleged to be about 537*l.* in excess of the amounts properly due to them. On the matter coming before Mr. Justice Cave he made an order referring the questions of fact in dispute to the official referee, Mr. Ridley, and the inquiry before the latter, which lasted five days, was concluded on the 5th inst., Mr. Sutton, instructed by Messrs. Farrar & Hall, appearing for the plaintiffs, and Mr. Bradbury, instructed by Mr. W. R. Minor, for the defendants.

Mr. J. Murgatroyd and Mr. R. J. Bennett, architects, gave evidence on behalf of the plaintiffs. Most of the builders engaged on the work also gave evidence as to the quantities and descriptions of work done, and as to the position taken by Mr. Richmond in interfering with the work while in progress. For the defendants, evidence was given by Mr. Jackson and Mr. West, building surveyors; Mr. Lawrence Booth, architect; Mr. Richmond, and his foreman, Mr. Kennedy, who acted as clerk of the works.

The Official Referee, in giving the reasons for his proposed report, said that the first allegation against the plaintiffs was a general one, namely, that they did not do their work properly. He did not think, upon hearing the evidence, that there was any testimony at all in support of that statement, because the building was not alleged to have been unsafe in any respect whatsoever. The only two questions that remained were (1) whether or not the plaintiffs in taking out the measurements; and (2) in assessing the prices which were due to the contractors, were guilty of negligence. What did the measurements come to? Three-quarters per cent. was not a very large figure to put down as the difference between the plaintiffs, on the one hand, and the defendants, on the other. To charge an architect with negligence in respect of measurements which differed only three-quarters per cent. from the measurements of the other side over a building worth 10,000*l.* was really nothing but absolute nonsense. As to the prices, he said that if he were asked as a lawyer to say on which side of the table the weight of evidence was as to the prices being fair and reasonable, it was distinctly in favour of the plaintiffs. For that reason he came to the conclusion that negligence was not proved by the defendants. The onus was on the defendants, and he (the Official Referee) was of opinion that they had totally failed to discharge the onus. He went further, and said that he did not remember any case in which negligence had been charged against a professional man as it had been charged in that case, and vehemently persisted in, with so little evidence to support it. That was his opinion about the case. He should, therefore, send in a report to the Judge that he saw no evidence on which he could find negligence at all on the part of the plaintiff, and that the counter-claim entirely failed.—*Manchester City Times.*

"THE VENTILATION OF SEWERS."

SIR,—In your last issue [p. 343] I am asked by Mr. Phillips to state what are the causes affecting sewer ventilation.

Mr. Phillips assumes one cause only,—temperature; another factor is the sewage itself, whilst by far the most powerful agent is the wind.

As Mr. Phillips neglects the most important factor, to say nothing of the second, his assumptions are necessarily fallacious; it is a question of fact, and one that can be proved by any one who will provide himself with a few anemometers, and then make experiments for a few months.

Wimbledon. W. SANTO CRIMP.

SIR,—Mr. Phillips appears quite certain that the custom of permitting sewer-air to escape through gratings terminating at the street level is neither sane nor sanitary, and paints a very highly-coloured picture of what takes place. No doubt, says he, that by the inhalation of disease-germs from this source, very many deaths have been caused. Can Mr. Phillips give one single case where death has been caused by the inhalation of disease-germs when passing over these terrible gratings?

Mr. Phillips is wrong when he asserts that the advocates of the street-level gratings hold that by the admission of fresh air through these grates into the sewer, the air becomes comparatively pure. What they do hold is, that by the admission of fresh cool air into the sewer, much less foul air is generated, and that which does escape is so small in volume compared with the atmospheric air into which it is discharged, that no harm can take place.

Mr. Phillips will admit, I am sure, that by the application of the refrigerator, decomposition is delayed; and, if so, he must admit that decomposition in the sewer is delayed by the warm moist air being lowered in temperature by the admission of fresh cool air through the street level grates. It would be interesting to know how Mr. Phillips would apply his system of mid-feather trapping as shown in his diagram [p. 297, *ante*], to a sewer with, say, a gradient of 1 in 600. The 3 in. required at each trap would scarcely be available, and as many sewers have even less fall than this, his system cannot by any means be considered a panacea.

Notwithstanding what is said to the contrary, iron flaps have proved to be of much value in breaking up a system of sewers into sections for the purposes of ventilation. It is not necessary to hermetically seal one end of each section of the sewers, but it is sufficient for all practical purposes to check the flow of air at each manhole, and in suitable intermediate positions to erect upcast shafts.

All that is required is that the sewers be so designed and constructed as to be self-cleansing, that they be ventilated and cooled by the introduction of a sufficient number of shafts terminating at the street level surmounted by gratings, and intermediate upcast-shafts attached to high buildings, and that they be well and regularly flushed.

J. W. BROWN.

West Hartlepool, May 14.

"BLACKBURN TECHNICAL SCHOOL COMPETITION."

IN answer to your correspondent [p. 343, *ante*] I beg to say that the design to which I awarded the second premium I considered the second best design. EDWD. C. ROBINS.

PROPOSED RESTORATION OF BARFRESTON CHURCH.

SIR,—Will you allow me to bring forward in your columns a matter interesting to all who have any respect for our ancient architecture? Barfreston Church, in Kent, well known to many, and referred to in several books on architecture (such as Mr. Rickman's and Mr. Parker's books on Gothic architecture, it being one of the most perfect twelfth-century churches existing in England), will probably before long be "restored," unless saved in time from the destructive hand of the restorer. The drawings sent by a "London architect" who has been consulted on the matter, show,—firstly, an entirely new roof to the nave and to the chancel, internally of trefoil form, with numerous chamfered ribs and struts; also a new coping to east and west gables of nave; secondly, the west wall is to be entirely pulled down, and a new one built up, leaving out an old fifteenth-century window which at present exists, substituting for it a nineteenth-century Norman one; thirdly, a bell-turret is to be erected at the apex of the west wall; and, lastly, a huge stone chimney is to be carried up on the north side of the west wall.

Now firstly, having thoroughly examined the roof, I have found every portion of the present wooden structure to be perfectly sound: all that is required to be done is to re-point, and in some cases to adjust, the tiles, and to reinstate the plaster to ceilings, or take down all plaster, and replace with boarding nailed to the outside of the rafters: this would prevent snow and rain from drifting in, and would keep the church thoroughly dry.

Secondly, it can be seen that rebuilding the west wall is entirely unnecessary. Although slightly out of perpendicular, in common with many an old church wall, it is not as much out of perpendicular as another wall which is not to be touched; moreover, the west wall is thicker than any of the other walls.

Thirdly, as to the bell-turret. The bell at present swings in the nave roof, in consequence of which the sound is slightly muffled; this could be easily remedied by making a small opening in either side of the roof where the bell hangs.

Lastly, the stone chimney is entirely unnecessary, there being at present a very good stove in the church, with an iron smoke-flue (a 4-in. cast-iron pipe) carried up a certain distance on the outside of the north wall, but not sufficiently high above the nave roof to prevent the stove from smoking when the wind is in the north quarter. It is perfectly obvious that all that is required to prevent the stove from smoking is to put on an extra length of iron piping.

All who are interested in this fine old church of ours will, when visiting Barfreston and seeing the drawings showing the proposed "restorations," immediately understand what great danger is awaiting the church, and how serious the matter really is. Before this vandalism takes place some competent expert on construction ought to be consulted, who should decide what is absolutely necessary to be done. DETMAR J. BLOW.

May 15.

The "New Gallery" in Regent-street. Mr. J. F. Ebner asks us to mention that the parquet floors at the New Gallery in Regent-street have been laid by him on his "hydrofuge" principle, in the very short space of ten days.

IRON BUILDINGS AT THE ANGLO-DANISH EXHIBITION.

SIR,—My attention has been drawn to a paragraph in your valuable paper of Friday last, under the heading of "The Anglo-Danish Exhibition and Fête," in which you give the name of a certain firm as having erected a good number of iron buildings at this exhibition. I now beg to inform you that I am the sole contractor for iron buildings to the Anglo-Danish Exhibition, having erected the theatre, the whole of the Danish Village, and other houses. I have made a personal inspection of the grounds and the buildings erected therein, and the only structures I can find, other than those I have erected, are two small lavatories, which have been covered with iron for a firm of sanitary contractors, and which form no part of the exhibition.

J. C. HUMPHREYS.

Knightsbridge, May 17.

The Student's Column.

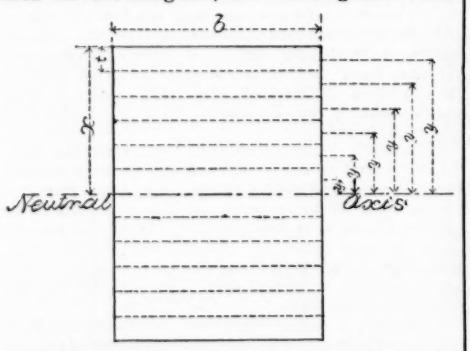
IRON.

XX.—SOLID BEAMS (CONTINUED).

FOR the purpose of calculation, the neutral axis is generally assumed to pass through the centre of gravity of any cross section; but it must be remembered that its exact position depends both upon the form of the beam and the nature of the material of which the beam is composed. In beams made of a material in which the compressive strength is different to the tensile strength, it is fair to suppose that the neutral axis will accommodate itself so as to equalise the moments produced upon the compressive and the tensile sides of the beam, its position therefore depending upon the ratio which the compressive strength bears to the tensile strength of the material; but as it is usually accepted that the neutral axis may practically be taken at the centre of gravity of the section, we shall proceed upon that assumption.

In beams of symmetrical section the centre of gravity will be at the centre of the section, as in the diagram.

To find the moment of resistance of any section, it is first necessary to divide it into horizontal layers, as indicated by the horizontal lines in the diagram, and the greater the



number of parts or layers into which the section is thus divided, the more accurate will be the result obtained.

Let b = the breadth of any horizontal lamina of the section, and t = its thickness, then its area will = $b\,t$ = A.

Let x = the distance of the furthest edge of the section or of the outside lamina, y = the distance of any inside lamina, nearer the neutral axis, S = the unit strength of the material, Σ = the sum of the moments of all the layers round the neutral axis, and M = the moment of resistance of the section, then

$\frac{y}{x}$S = the unit stress exerted by any particular lamina.

$\left(\frac{y}{x}\mathrm{S}\right)$A = total stress exerted by that lamina, and the moment of this stress about the neutral axis will be $\left(\frac{y}{x}\mathrm{S}\right)$ A × y = moment of resistance of that lamina. Hence the total moment of resistance = M = $\Sigma\left(\frac{y\,\mathrm{S}}{x}\right)$ A × y, or M = $\Sigma\frac{y\,\mathrm{S\,A}\,y}{x} = \Sigma\frac{y^2}{x}$S A, in which it will be observed that as S and x are constant quantities they can be put outside the summation and written thus, $\frac{\mathrm{S}}{x}(\Sigma\,\mathrm{A}\,y^2)$.

The quantity $\Sigma\,\mathrm{A}\,y^2$ is usually termed the moment of inertia of the section, and called $\mathrm{I} = \Sigma\,\mathrm{A}\,y^2$.

Then the moment of resistance = $\frac{\mathrm{I} \times \mathrm{S}}{x}$

In finding the moment of inertia the summation must be made for the *whole of the laminæ* in the section of the beam. In symmetrical sections, such as exhibited in the diagram, it is only necessary to work out the moment of inertia for the portion of the section situated upon one side of the neutral axis, and then to double the result, as both sides of the neutral axis would give the same figures; but in the case of an unsymmetrical section, where the neutral axis is not situated in the centre of the section, it is necessary first to find the position of the centre of gravity and then to employ the distances measured from this position in calculating the moment of inertia of the section. The values of the moments of inertia for the most usual sections of beams are published in an algebraical form in most books which deal with the strength of materials.

RECENT PATENTS.

ABSTRACTS OF SPECIFICATIONS.

4,773, Door Checks and Closers. G. R. Elliott (U.S.A.).

The door-check which is the subject of this patent is actuated by a coiled spring contained in a casing or box; a spindle passing through carries an arm, to the outer end of which is jointed one end of a short link, the other end being jointed to a second arm jointed in turn to a bracket screwed to the door-frame. In opening the door the spring is wound up to a certain extent, and the effect of the uncoiling of the spring brings the door to its proper position.

7,134, Asphalte and Metal Framework. W. Gürtler.

According to this invention, asphalte, which has before been used for floors, roadways, &c., but not applied to building purposes, is used for the construction of independent structures by combining it with a metallic framework. Iron wire framing is used, and in such a form that the pattern forms a core, between which and the framework sufficient space is left for forming the inner coating of asphalte on the latter. The asphalte is applied hot, and pressed between the interstices of the framework. Pipes, slabs, ceilings, are all formed by this process.

7,517, Improvements in Saws. T. Tyzack.

According to this invention, the blades of saws are attached and detached so that, should the saw-blade be required to be renewed, this can be effected without the necessity of a new frame and handle. By screws, springs, latches, and such like contrivances, the saw-blade is renewed and replaced at will, and another blade substituted.

8,031, Composition for Distempering. R. Gould.

The object of this invention is to obtain a cheap, sanitary, and good-covering distemper that will, when prepared, keep for a lengthened period ready for use. The ingredients and proportions of the materials used for the composition are given in the specification.

10,034, Chimney Pots. R. Smith.

By making the chimney-pot with two cross pieces, and suspending therein a metal valve or disc, the following action is claimed to be secured by the inventor. The closing of the valve to the windward excludes the contrary winds and draught, and provides a free passage for the escape of the smoke to the leeward; while, in the absence of any direct currents of wind, the valve hangs vertically within the pipe, allowing the passage of smoke on either side of it, and its escape through the open ends of the cross pipe.

15,889, Double Bar Lock Roofing Tile. T. N. Grimbleby.

The mode of construction of the tile which is the subject of this invention is with an inner bar running down the tile parallel with and at the required distance from the ordinary fillet bar, and inclining towards it so as to form a channel between the two. In fitting the tiles together, the wrong side of the tile abuts the fillet of the adjacent tile. The wing overlapping the fillet bar is so shaped as to fit into the channel formed by the two bars. The bar inclining outwards overlaps the rebated portion of wing, and so prevents water drifting under, and also locks each tile to its fellow.

3,156, Chimney Cowl and Exhaust Ventilator, H. Lawrence.

According to this invention, a cylinder fits tightly into the centre of, and projects beyond, a disc, whose plane is at right angles to that of the cylinder. A second disc is affixed to the projecting part of the cylinder by worms or stays, the top disc being parallel with the under one. When the wind blows between the discs, it impinges against the projecting part of the cylinder, and plays across the top, producing a partial vacuum, and consequent suction or updraught in the chimney or ventilator to which it is attached. The stronger the wind the greater is the up-draught.

NEW APPLICATIONS FOR PATENTS.

May 4.—6,651, T. Twyford, Flushing Cisterns.—6,661, W. Coulsell, Locking Pin Arrangement for Combination T and Set Square.—6,662, G. Kendal, Regulating the Quantity of Air passing up the Chimneys and Open Fireplaces.—6,690, H. Buignet, Testing the Strength of Cements, &c.

May 5.—6,712, J. and B. Craven, Machines for Pressing Bricks, &c.—6,744, E. Edwards, Iron Floors.—6,751, C. O'Leary, Automatic Alarm Bell.

May 7.—6,759, P. Lucas, Step-Ladders.—6,770, J. Brown, Handle for Screw Drivers, &c.—6,790, T. Buck, jun., Cutting and Loading Bricks.—6,807, P. Stuart, Pavements.

May 8.—6,813, W. Tennant, Door-checks.—6,826, P. Denniston, Chimney Cowls.—6,843, J. Riddiough, Counterbalancing Window-sashes.—6,854, E. Snedeker, Combined Sawing Machines.—6,882, M. Wallace, Domestic Fire Stoves or Grates.

May 9.—6,892, W. Crisp, Combination Rim and Mortise Locks.—6,908, E. Andreoni, Closing and Flushing Water-closets.—6,945, H. Lake, Glazier's Diamond.

May 10.—6,960, W. Scott-Moncrieff, Grease Intercepters for House Drains, &c.—6,965, J. Brindley, Gully Traps.—7,003, G. Otway, Apparatus for Cutting Bricks, Tiles, &c.

PROVISIONAL SPECIFICATIONS ACCEPTED.

738, H. Smart, Fittings for Hydro-dynamic Ventilating Apparatus.—3,295, S. Willett, Window Fastener.—3,634, W. Fraser, Door Fastenings.—4,782, W. Booth, Fasteners for Window-sashes, &c.—5,079, J. Birkett, Building and Paving Blocks.—5,205, C. Smiles and W. Davidson, Matchboards for Partitioning, Wainscoting, Flooring, &c.—5,229, J. Murray, Gutters for Corrugated Roofing.—5,332, H. Haddan, Portable and other Bridges.—5,502, C. Wittkowsky, Mosaic Work.—5,509, H. Butcher and J. Baxter, Draught Excluders for Doors and Windows.—5,577, W. Thompson, Wall Coverings, &c.—5,589, N. Barker, Ladders.—5,931, D. Hoey, Ventilating Halls, Rooms, &c.—5,933, D. Knowles, Fastening for Window-sashes, &c.—5,955, W. Kellaway, Fixed Stoves or Grates.—5,969, H. Barfoot, Chimney-pots.—6,001, H. Stockmann, Drain-pipes.—6,203, A. Margetson and N. Hek, Tip Carts, Wagons, and Vans.—6,229, T. Twyford, Formation of Water-closets.—6,242, W. Dixon, and W. Rodgers, Water-closets.—6,247, N. Martin, Window-sash and Casement Fasteners.

COMPLETE SPECIFICATIONS ACCEPTED.

Open to Opposition for Two Months.

7,708, N. Foster, Kilns and Drying Floors for Cements and Limes.—8,266, W. Cliff and B. Peto, Brick or Building Block.—8,450, R. Low, Dovetailing Machines.—9,617, J. Harrison, Metallic Grit for Cutting or Grinding Stone, &c.—4,189, J. Jones, Locking or Securing Doors, Gates, &c.—4,553, G. Baker, Bakers' Ovens.—4,712, H. Lake, Lavatory Basins, Baths, &c.—4,802, J. Firth, Opening or Closing Window Casements, Fanlights, Doors, &c., and Maintaining same in any desired Position.—5,328, G. Parketon, Hollow Grates.—5,337, C. Abel, Supplying Cool or Moistened Air to Rooms and Buildings.

RECENT SALES OF PROPERTY.

ESTATE EXCHANGE REPORT.

MAY 3.

P. D. TUCKETT (at Romford).

Upton Park—Forty plots of freehold land £1,389

MAY 7.

REYNOLDS & EASON.

St. Luke's, Whitecross-street—A plot of freehold land, area about 1,800 ft. 1,500

Clerkenwell—The lease of 6 to 9, Baker's-row, term 7 years 30

CRAFTER, HARRIS, & CO.

Dalston—A rental of £100 a year, term 48 years, and 9 years' reversion 1,920

Hackney—A rental of £30, term 58 years 490

WALPOLE, LEWIN, & CO.

Wimbledon—1, South-cottages, freehold 575

The freehold cottage adjoining 500

Kensington—20, St. Mary Abbott's-terrace, 16 years, ground-rent £18 420

MAY 8.

MARK LIELL.

Whitechapel—53 and 55, Mansell-street, and 1 to 6, Lansdowne-cottages, term 8 years, ground-rent £45 260

By BARKER & CRATHIE.

Clapham—13 and 14, Cottage-grove, 57 years, ground-rent £10 380

By WIGHTWICK & GEORGE.

Forest Hill, Waldram-road—A plot of freehold land 300

Codrington-road—Codrington House, freehold 530

By DEBENHAM, TEWSON, & CO.

Addlestone, Surrey—Tudor House, and 3¾ acres, freehold 2,500

The freehold residence, Fieldside 700

Nos. 2 and 6, Addlestone-park, freehold 1,270

Three plots of freehold land 385

MAY 9.

BY TOPLIS & ROBERTS.

South Kensington—17, Kempsford-gardens, 78 years, ground-rent £6 625

By C. A. RICHARDS.

Brixton—54 and 56, Rattray-road, 86 years, ground-rent £13	£430
Wandsworth—30, Varden's-road, freehold	520
West Smithfield—21, Hosier-lane, freehold	650

By J. C. PLATT.

Hammersmith—39, Mall-road, 80 years, ground-rent £8. 10s.	390

By DANNANT & STOPHER (at Deptford).

New Cross—63, Shardeloes-road, 76 years, ground-rent £7	450
New Cross-road—Nos. 437 and 439, 61 years, ground-rent £11	900
Greenwich—An improved ground-rent of £9. 14s., term 59 years	145
New Cross—71, Lewisham High-road, 57 years, ground-rent £8. 5s.	410
27, Pepys-road, 69 years, ground-rent £10	450
49, 51, and 53, Angus-street, 79 years, ground-rent £12	500

MAY 10.

By R. BOYCE.

Hornsey—81 and 83, Duncombe-road, freehold	365
City-road—62, Britannia-street, freehold	325

By C. C. & T. MOORE.

Whitechapel—7, 9, and 11, Osborn-street, freehold	1,550
Poplar—4, Emmett-place, freehold	320
Clapton Park—133, Dunlace-road, freehold	295
Limehouse—78, Aston-street, 28 years, ground-rent, £3. 5s.	140

By E. STIMSON.

Dalston—47, Forest-road, 63 years, ground-rent, £10. 10s.	415
Woodford—1 and 2, Percival-villas, freehold	400
Pimlico—1 and 3, Clarendon-street, 40 years, ground-rent, £16	940
Walworth—1a, Runham-street, freehold	320
1 and 2, Ann's-buildings, 20 years, ground-rent £2	190
38, 40, and 42, Barlow-street, 22 years, ground-rent £9	395
Brixton—1 to 7 odd, and 5a, Cornwall-road, 22 years, ground-rent £5	430
33 and 35, Brandon-road, 18 years, ground-rent, £3	140
53 and 55, Brandon-road, 18 years, ground-rent, £4. 12s.	175
9, Vicary-street, 67 years, ground-rent, £2. 5s.	130
29, Allington-street, 67 years, ground-rent, £5	115

By NEWBON & HARDING.

Holloway—206, Holloway-road, freehold	1,350
Islington, Upper-street—Three plots of freehold land	1,400
22, Duncan-terrace, 38 years, ground-rent £11	670
107, Packington-street, 48 years, ground-rent, £6	380
46, Kingsbury-road, 63 years, ground-rent, £4	300
Clerkenwell—63, Myddelton-square, 24 years, ground-rent £8. 8s.	400
Dalston—2, Down's Park-road, 78 years, ground-rent £7	320
Lower Clapton—47, Clifden-road, 79 years, ground-rent £8	240

MAY 11.

By J. HIBBARD.

Lisson-grove—43, 45, and 47, Earl-street, 27 years, ground-rent £39	430

By NOKES & NOKES.

Lewisham—68, Algernon-road, 82 years, ground-rent £4	280
West Kensington—Freehold ground-rent of £6 reversion in 89 years	145

MEETINGS.

SATURDAY, MAY 19.

Association of Public Sanitary Inspectors. — Third Annual Provincial Meeting, Liverpool.

TUESDAY, MAY 22.

Royal Institution.—Prof. S. Colvin, M.A., on "Conventions and Conventionality in Art." 3 p.m.

WEDNESDAY, MAY 23.

St. Paul's Ecclesiological Society.—Mr. E. P. Loftus Brock, F.S.A., on "The Churches of Great Britain and Ireland, compared in respect of their Orientation with those of Italy and the East." 8 p.m.

THURSDAY, MAY 24.

Royal Institution.—Professor T. G. Bonney, F.R.S., on "The Growth and Sculpture of the Alps." 3 p.m.

Society of Telegraph - Engineers and Electricians.—Sir William Thomson, F.R.S., on his "New Standard and Inspectional Electric Measuring Instrument." 8 p.m.

Glasgow Architectural Association.—Visit to Carlisle.

SATURDAY, MAY 26.

Association of Municipal and Sanitary Engineers and Surveyors. — Midland Counties District Meeting at Leamington.

St. Paul's Ecclesiological Society.—Visit to West Wickham and Addington, under the direction of Mr. George Clinch. The stained glass at West Wickham will be described by Mr. Arthur Taylor, and Mr. S. W. Kershaw, F.S.A., will furnish some Historical Notes on the monuments at Addington. Train leaves Cannon-street at 3·7 p.m.

Miscellanea.

New Railway Station at Hastings.—The great expansion of St. Leonards, adjoining Hastings, within the last few years, has rendered necessary the erection of a new and greatly enlarged station at West Marina, which is the next station to St. Leonards on the line to Eastbourne. The London and Brighton Company have consequently determined upon the erection of a new station, and last week the works were commenced. The contract has been undertaken by Messrs. Firbank & Co., of Westminster, the estimated cost being 10,000*l.*

Liverpool Engineering Society.—The last meeting of the present session of this Society was held on the 9th inst., at the Royal Institution, Colquitt-street; Mr. C. H. Darbishire, President, in the chair. A communication was read by the Secretary from Mr. E. Gobert on the paper read at the previous meeting by Mr. Bamford, on Air Brakes. Mr. Gobert said the question now was which kind of brakes, vacuum or compressed air, was most advantageous. When they considered the question, both from a practical and theoretical point of view, its solution must decidedly be in favour of the air-pressure brakes, the most perfect and efficient of this class being the Westinghouse automatic brake, both in its usual form and the latest addition it has recently received from the inventor himself. The automatic brake, in its present form, might be a very serviceable brake on short trains, as used in this country, but it was entirely unsuitable for long trains, such as it is the practice to run on the Continent and in America. It was not known yet whether the automatic vacuum brake is affected by intense cold, as the old vacuum brake used to be, but intense cold had no effect on the Westinghouse brake, as the writer had occasion to witness some two years ago, whilst he was in Transylvania, where the winter is generally more severe than it is in this country. It might, he said, be asserted with fairness that the Westinghouse brake had attained finality in the latest type produced by its inventor. An interesting discussion followed. The following officers were then elected for the ensuing year:—President, Mr. C. H. Darbishire; Vice-presidents, Messrs. J. J. Potts and H. H. West; Honorary Secretary, Mr. J. H. T. Turner; Hon. Treasurer, Mr. O. S. Pilkington; Hon. Librarian, Mr. J. A. Brodie. During the recess it is proposed that the members shall visit the Forth Bridge, the Vyrnwy Waterworks, the Preston Dock works, and the Weaver Navigation works.

Civil and Mechanical Engineers' Society. At the invitation of the promoters of the Wolverton and Stony Stratford District Light Railway Company, a large number of members of the Civil and Mechanical Engineers' Society proceeded on Saturday by the London and North-Western Railway to Wolverton to inspect the steam tramway between that place and Stony Stratford. This line has been constructed by Messrs. Wilkinson & Co., who are promoting similar means of communication in other directions. At Wolverton the carriage works of the North-Western Railway employ a considerable number of hands, and this tramway enables a large proportion of them to live in outlying districts. The total length of the line is about four miles and half, an extension having been made from Stony Stratford to Deanshanger. The largest cars are constructed to accommodate as many as 120 passengers, the upper portion being under cover. Two of the engines used are of the newest design, by T. Green & Son, of Leeds and London, and contain condensing apparatus and an automatic arrangement which prevents the speed exceeding eight miles an hour, the limit fixed by the Board of Trade regulations. The visitors, having travelled in one of the largest cars from Wolverton to Stony Stratford, were entertained at luncheon at the Cock Hotel, one of the old coaching houses. Mr. R. E. Middleton (President of the Society) presided. An interesting feature in the rolling-stock of the Wolverton Company is that their goods trucks by a simple contrivance can be ultilised on the ordinary roads, and this minimises to a great extent the disadvantage of a break of gauge. During the stay at Stony Stratford a visit was made to the works of Mr. Edward Hayes, the well-known builder of steam-tugs and yachts.

The Bank Grove Estate, Kingston-on-Thames, is, as will be seen by an advertisement on our back page this week, to be sold by Messrs. E. & H. Lumley on the 20th prox. No doubt it will afford some "eligible building sites."

Mr. Tarver's Patent Theatre.—The *American Architect*, for April 14th, contains a laudatory notice of Mr. E. J. Tarver's proposals for a new type of theatre construction, which were described at the Institute and in our columns a few months ago.

The Automatic Fire-Proof Curtain Co. (Limited).—The prospectus of this new company will be found in our advertisement columns. We gave an account of Heath's patent curtain in the *Builder* for Nov. 5 last.

Irish Exhibition in London.—The design and plan of the Irish village to be erected in the garden of the forthcoming Exhibition at Olympia are now complete. The village is being organised by the Earl of Leitrim and Mrs. Ernest Hart, and, we are informed, will consist of a dozen cottages built and thatched by native workmen in the true Donegal fashion. They will be arranged so as to form a picturesque village street, irregular in plan. In the centre of the street will be seen the "Holy Well" and a veritable cross brought over from Ireland. At the western part of the village, facing the visitor on entering, will be the ruins of a low Irish tower. The cottages themselves will be occupied by native Irish workers, men, women, and children, who will pass in them their ordinary daily routine of life, and, of course, the familiar pig will be seen. The processes to be illustrated will be dyeing, carding, spinning and weaving by hand of homespuns and of linens; the weaving of damasks, lace making, sprigging, knitting, hemstitching, and the Kells embroidery. The fires will be lighted with peat brought from Ireland, and the iron potato kettle, with the usual furniture of an Irish cottage, will give their characteristic features to the interior. The Irish Farm House and Dairy, of sixty cows, will be an equally interesting and instructive object. The Rev. Canon Bagot has undertaken the superintendence of this section, and proposes to give a regular series of lectures on dairying, and will illustrate his lectures by demonstrations. We are told that he will bring over a party of the prettiest and most expert of Irish dairymaids, who will appear in the cleanest and neatest of native costumes. Monday, the 4th of June, is fixed for the opening ceremony.

A New Street of Shops at Brixton.—An important scheme for constructing a new thoroughfare with a frontage for fifty-five shops is now being rapidly pushed on with at Brixton. "Palmerston-avenue," as the new road is named, is a turning out of the Brixton-road at what is now one of its busiest parts, that is, near the Bon Marché, but on the opposite side of the road, and south of the railway bridges. It progresses by a gradual sweep, and enters the Atlantic-road exactly opposite to the main entrance to the Brixton station of the London, Chatham, and Dover Railway. The project is being carried out by a syndicate. The contract for the road construction and the excavation of the foundations has been placed in the hands of Mr. Richard Mayo, of Brixton, under the direction of Messrs. Robert Evans & Frank R. Evans, of Wimbledon, joint architects and surveyors to the scheme. We understand that it is intended to light the whole of the street with the electric light, on the Fyfe-Main system. This system is now in operation at several shops in this part of the Brixton-road.

New Fire Brigade Station at Silvertown.—New fire-station buildings are in course of erection at Silvertown, which is within the municipal district of the Borough of West Ham. The buildings are being erected in the North Woolwich-road, and the memorial stone was laid last week by the Mayor. Hitherto the safety of the district in case of fire has been dependent upon the engines kept at Barking-road and Stratford, which have been found altogether insufficient, and hence the erection of the new buildings in about the centre of Silvertown, where there are so many large manufacturing establishments. The Mayor, in performing the ceremony, said that during the long time that Mr. Angell had been surveyor and engineer of the district two public buildings only had been erected, namely, the Stratford Town-hall and the Police-courts. The building of which he had just laid the memorial stone was absolutely necessary, in view of the protection from fire of the outlying district of Silvertown. The building has been designed by Mr. Lewis Angell, Surveyor and Engineer to the Corporation, the contractor being Mr. Scotney.

Competition: Wesleyan Schools, New Shildon.—We are informed that the designs of Mr. J. W. Taylor, of Newcastle-on-Tyne, have been accepted for the erection of Wesleyan Methodist Sunday Schools at New Shildon, near Darlington. The new buildings will be carried out in brickwork, with stone dressings, and will give accommodation for 470 scholars.

Parkes Museum. — The Clothworkers' Company have just sent a donation of 25*l.* to aid in maintaining and expanding its work of practically teaching the laws of health.

Trinity Cougregational Church, Reading.—The alterations to and enlargement of Trinity Congregational Church, Reading, considerable as they are, form but the larger part of a scheme for rearrangement which, when completed, will include the improvement of and increased accommodation in the school buildings, &c. Several plans were taken into consideration in connexion with this matter before the final one, now in large part carried out, was adopted. The urgent need for increased accommodation in the church itself, as well as of improvement in the arrangement for choir, organ, pulpit, &c., and the desirability of providing better porch accommodation, rendered the alterations in the church the first consideration. These alterations consist in the addition of side arches to the nave and the formation of two stone arcades with clearstories over them, supported on polished granite columns, each of which is in one piece of granite. The end arch of each arcade spans the transept on each side, and these, we are informed, are the two widest spanned arches of any church in Reading. The whole of the floor of the church has been reseated with pitch-pine seats, and the gallery at the north end has been set back to allow of the proper termination of the arcade on either side of the nave, a new front to the gallery being formed in pitch-pine and walnut. The gas-fittings throughout have been rearranged and improved. The warming and ventilation have been completely remodelled, the former being a combination of the systems of hot air and hot water. The additional porches are of ample size, and each communicates with a vestibule placed between the porch and the church, and warmed. The character of the new work has been made to harmonise with that of the old portions of the building, in so far as this was thought to be desirable, but without too rigid an adherence as regards details. The Early English style, however, has been adopted throughout. No decoration has at present been undertaken, since the present condition of the walls will not admit of this; but it is proposed to fill some of the windows with stained glass by Messrs. Clayton & Bell. The works have been carried out from the design and under the superintendence of Mr. Ravenscroft, the builder being Mr. J. C. Cook. Messrs. Haden, of Trowbridge, have supplied the warming and ventilating apparatus; Mr. Gern, of London, has removed and improved the organ; Mr. Margrett, of Reading, has executed the gas-fittings, &c., and Messrs. Long & Heilar have had charge of the furnishing of the church. The total cost will be about 3,000*l*. Mr. Dickson was the builder's foreman.

The Association of Public Sanitary Inspectors.—The following resolutions were adopted at the meeting of this Association held at Westminster Town Hall on the 5th inst.:—

(1) "That the attention of the President of the Local Government Board be directed to Section 118 of the Local Government Bill, in consideration of the fact that a large majority of urban and rural Sanitary Inspectors are appointed, not permanently, but annually, biennially, and triennially."

(2) "That such officers, on the expiration of their present term of office (during which Section 118 would continue the protection of the Local Government Board) will then be face to face with new authorities, knowing little of the work of sanitation, with no certainty as to their salaries, and such officers will then be entirely in the power of local, and, it may be, adverse influences."

(3) "That the interests of the public health, and the interests of health officers, are one and indivisible, and such interests can only be properly secured by Governmental control."

(4) "That Section 118 should, therefore, be amended with a view to secure permanency of tenure of office under Local Government Board protection, to all health officers."

New Church for Byers Green, Durham. The annual vestry meeting was held on the 14th inst., when the rector (Rev. Dr. Hooppell) presided. Resolutions were passed in favour of making the Newfield district into a separate parish, and the designs of Mr. J. W. Taylor, architect, of Newcastle-on-Tyne, were adopted for a new church to seat 250 persons. It was intimated that the Ecclesiastical Commissioners had given an acre of land for a site, and a handsome donation towards the the building fund, and the Committee of the Bishops' Fund had also made a liberal promise for the same object. The new church is to be in the Early English style, with transepts, and will be built of local stone.

Newman Mansions, Oxford-street.—Referring to our notice *re* Newman Mansions, Oxford-street, in last week's issue, we are asked to mention that the basements are illuminated by Hayward's Patent Semi-prism Pavement Lights.

PRICES CURRENT OF MATERIALS.

TIMBER.	£.	s.	d.	£.	s.	d.
Greenheart, B.G. ....ton	6	10	0	7	10	0
Teak, E.I. ....load	8	0	0	12	10	0
Sequoia, U.S. ....foot cube	0	2	3	0	3	0
Birch, Canada ....load	2	15	0	4	15	0
Fir, Dantsic, &c.	2	0	0	4	0	0
Oak ,, ...	2	0	0	4	10	0
Canada	4	0	0	6	10	0
Pine, Canada red	2	10	0	3	10	0
,, yellow	2	10	0	4	0	0
Lath, Dantsic ....fathom	3	10	0	5	0	0
St. Petersburg	5	0	0	6	0	0
Wainscot, Odessa, crown	2	10	0	3	0	0
Deals, Finland, 2nd and 1st...std.100	8	0	0	9	10	0
,, 4th and 3rd	6	10	0	7	10	0
Riga	6	0	0	7	10	0
St. Petersburg, 1st yellow	9	10	0	14	10	0
,, 2nd ,, ...	8	0	0	9	0	0
,, white	7	0	0	10	0	0
Swedish	7	0	0	15	10	0
White Sea	8	0	0	17	0	0
Canada, Pine, 1st	14	0	0	23	0	0
,, ,, 2nd	9	0	0	15	0	0
,, ,, 3rd, &c.	7	6	0	9	10	0
,, Spruce, 1st	8	0	0	9	10	0
,, 3rd and 2nd	6	0	0	7	10	0
New Brunswick, &c.	6	0	0	7	5	0
Battens, all kinds	4	10	0	11	0	0
Flooring Boards, sq., 1 in., prepared, First	0	10	0	0	12	0
Second	0	7	0	0	9	6
Other qualities	0	4	6	0	6	6
Cedar, Cuba ....foot	0	0	3½	0	0	4
Honduras, &c.	0	0	3½	0	0	3¾
Australian	0	0	2¾	0	0	3¼
Mahogany, Cuba	0	0	4½	0	0	6
St. Domingo, cargo average	0	0	4½	0	0	6
Mexican ,, ...	0	0	4	0	0	4½
Tobasco ,, ...	0	0	4½	0	0	5½
Honduras ,, ...	0	0	4½	0	0	5½
Rose, Rio ....ton	8	0	0	11	0	0
Box, Turkey	5	0	0	12	0	0
Walnut, Italian ....foot	0	0	4	0	0	5½

METALS.						
IRON—Bar, Welsh, in London...ton	4	17	6	5	0	0
,, ,, at works in Wales ...	4	7	6	4	10	0
,, Staffordshire, London....	5	5	0	7	0	0
COPPER—						
British, cake and ingot.... ton	81	0	0	0	0	0
Best selected	82	0	0	0	0	0
Sheets, strong	88	0	0	0	0	0
Chili, bars	82	10	0	82	15	0
YELLOW METAL ....lb.	0	0	7½	0	0	7⅝
LEAD—						
Pig, Spanish ....ton	12	12	6	0	0	0
English, common brands	12	17	6	13	0	0
Sheet, English	13	17	6	14	2	6
SPELTER—						
Silesian, special ....ton	17	0	0	17	5	0
Ordinary brands	16	10	0	16	15	0
TIN—						
Straits ....ton	85	0	0	0	0	0
Australian	85	0	0	0	0	0
ZINC—						
English sheet ....ton	21	0	0	21	10	0

OILS.						
Linseed ....ton	18	5	0	18	7	6
Cocoanut, Cochin	27	0	0	28	0	0
Ceylon	23	15	0	24	0	0
Palm, Lagos	21	0	0	21	10	0
Rapeseed, English pale	24	0	0	0	0	0
,, brown	22	10	0	22	12	0
Cottonseed, refined	21	0	0	0	0	0
Tallow and Oleine	25	0	0	45	0	0
Lubricating, U.S.	5	15	0	6	0	0
,, refined	7	0	0	12	0	0
TURPENTINE ..						
American, in casks....cwt.	1	9	0	0	0	0
TAR—						
Stockholm ....barrel	0	15	0	0	0	0
Archangel	0	9	6	0	0	0

TENDERS.

[Communications for insertion under this heading must reach us *not later than* 12 *Noon on Thursdays.*]

BENTLEY (Suffolk).—For drainage and sanitary work at Tattingstone Place, Bentley, Suffolk, under the superintendence of Mr. Frederick Colyer, 18, Great George-street, Westminster:—

Tyler & Sons	£1,125 0 0
Dent & Hellyer	1,040 0 0
G. Jennings	700 0 0

BERMONDSEY.—For sewer work, for the Bermondsey Vestry:—

Botterill	£2,918 0 0
Ridley	2,333 0 0
Preston	2,137 0 0
Dickenson	1,777 0 0
Waters	1,700 0 0
Adams	1,698 0 0
Butler	1,599 0 0
Woodham & Fry	1,543 0 0
Bell (accepted)	1,529 0 0

CAMBERWELL.—For erecting boundary wall and lodge to public park, Knatchbull road, Camberwell. Mr. Geo. Hubbard, architect:—

F. Curtis & Co. [accepted at schedule].

CAMBERWELL.—For erecting four houses, Knatchbull-road, Camberwell, for Mr. W. Minet. Mr. Geo. Hubbard, architect:—

F. Curtis & Co. [accepted at schedule].

CANTERBURY.—For broken granite to be supplied under the direction of the City Surveyor:—

	Per ton.		Per ton.
Manuele, Guernsey	12s. 0d.	to	12s. 4d.
Mowlem, do.	11 5	,,	11 5
Stranger, do.	11 6	,,	12 2
Dulwill, Solomns, & Co.	13 0	,,	13 6
Trickett & Sons	15 6	,,	16 6
Widdows, Barrow-in-Furness	13 0		
Groby Granite Co.	16 0	,,	16 6
Ellis & Co., Maidstone	14 0		
Penlee Elvan Stone (accepted)	13 8		
Paton, Bombay	12 3	,,	12 9
Paton, Melbourne	11 3	,,	11 9

CARDIFF.—For the construction of the new Grangetown Bridge, Cardiff, for the Cardiff Corporation:—

Lysart & Co.	28,789 0 0
Finch & Co.	28,750 0 0
Arrol & Co.	26,000 0 0
Andrews & Handyside	23,400 0 0
Logan, Hemingway, & Handyside, Cardiff (accepted)	£23,226 0 0
J. Dickson & Thorne	23,000 0 0

CATFORD BRIDGE.—For alterations to and enlargement of Knockholt, Ravensbourne Park, for Mr. S. Heywood. Mr. J. Kingwell Cole, architect, 28, Mount-street, Grosvenor-square, W.:—

Thos. Powell, Lee	£2,350 0 0
Wall Bros., Kentish Town	2,187 0 0
J. Waddington, Sydenham	1,897 0 0

CHADWELL HEATH, E.—For the erection of premises at the corner of Hainhault and Romford-roads. Messrs. Fryer & Russell, architects, &c., 2, Pancras-lane, Queen-street, E.C.:—

W. F. Doughty (accepted)	£700 0 0

[No competition.]

CHELSEA.—For erecting and fitting up post-mortem room and building disinfector room at the Chelsea Infirmary, Cale-street, Chelsea, for the Guardians of Chelsea. Messrs. A. & C. Harston, architects, 15, Leadenhall street, E.C. Quantities not supplied:—

W. Johnson	£490 0 0
W. F. Picken	475 0 0
G. Wade	470 0 0
R. Cox, 30, Totteridge-road, Battersea*	457 10 0

* Accepted.

CHELSFIELD (Kent).—For additions and alterations at the Board Schools and Master's House. Mr. G. St. Pierre Harris, architect, 1, Basinghall street, E.C. Quantities by Mr. C. Stanger:—

Holt	£625 0 0
Peat	605 0 0
Stephenson	569 0 0
Wood	558 0 0
Bowyer	543 0 0
Somerford & Son	539 0 0
King Bros.	530 0 0
Knight	527 0 0
White	489 0 0
Money Marsland	487 0 0
Lowe	459 0 0
Gorham & Wood	449 0 0

CLAPTON.—For the erection of All Saints Vicarage, Clapton. Messrs. John Giles, Gough, & Trollope, architects:—

G. S. S. Williams & Son	£2,426 0 0
Holliday & Greenwood	2,357 0 0
S. J. Jerrard	2,333 0 0
Kilby & Grayford	2,220 0 0
W. & H. Castle	2,189 0 0
Charles Claridge	2,166 0 0
Charles Cox	2,148 0 0
S. J. Scott	2,116 0 0
Wm. Scrivener & Co., Fitzroy-road, Regent's Park	2,107 0 0

DONCASTER.—For the erection of free public library and school of art. Mr. Henry A. Cheers, architect, Twickenham:—

W. Johnson	£4,092 0 0
Atbrow & Gill	3,850 0 0
C. Spraikes	3,550 0 0
B. Wartley	3,385 0 0
W. Anelay (accepted)	3,370 0 0

[All of Doncaster.]

DOVER.—For residence, St. Margaret's Bay, Dover, for Mr. G. F. de Zoete. Mr. R. W. Collier, architect. Quantities by Messrs. C. G. Maylard and Stutfield:—

Kirk Bros.	£3,900 0 0
W. Bromley	3,840 0 0
Stephens & Bastow	3,599 0 0
G. H. Denne & Son	3,447 0 0
W. & T. Denne	3,390 0 0
H. Stiff	3,185 0 0

EDDLESBOROUGH.—For additions to the Axe and Compass, for Messrs. M. A. Sedgwick & Co., of Watford. Mr. C. P. Ayres, Watford, architect:—

Thos. Turner (Limited), Watford	£744 0 0
White, Dunstable	725 0 0
C. Brightman, Watford	680 0 0
Robinson, Dunstable	655 0 0
Sharratt, Eaton Bray	654 15 0

FINCHLEY.—For underpinning and other works of reinstatement and repairs to private residence. Mr. G. St. Pierre Harris, architect and surveyor, 1, Basinghall-street, E.C.:—

G. Johnson (accepted)	£206 0 0

[No competition.]

GUILDFORD.—For the erection of farm buildings, &c., at Shamley Green, near Guildford, for Mr. C. D. Hodgson. Mr. T. C. Barralet, architect, Bridge Chambers, Richmond, Surrey:—

Harvey Brown, Bramley (accepted)	£300 0 0

COMPETITIONS AND CONTRACTS.

Epitome of Advertisements in this Number.

COMPETITIONS.

Nature of Work.	By whom required.	Premium.	Designs to be delivered.	Page.
Restoration of St. Lawrence Church, Jersey	The Committee.....	30*l.*.....	June 30th	ii.

CONTRACTS.

Nature of Work, or Materials.	By whom required.	Architect, Surveyor, or Engineer.	Tenders to be delivered.	Page.
Scavenging, Watering, &c.	St. Saviour's B. of Wks	*Official*	May 23rd	xi.
Sewers Work	Mile End Vestry	J. M. Knight	do.	xi.
Granite	St. George's-in-the-East Vestry	*Official*	do.	ii.
Footway Paving, Pipe-Sewers, &c.	St. Luke's Vestry	do.	do.	ii.
Broken Granite, &c.	Hackney Brd. of Wks.	J. Lovegrove	do.	ii.
Water Mains and Pipes	Tendring Hund. Wtrwks	*Official*	May 24th	xii.
Paving Works	Clerkenwell Vestry	do.	do.	xi.
Paving Works	Walthamstow Local Brd	H. S. Ridings	May 25th	xi.
Painting Works, Upton Park	St. George's-in-the-East Guardians	Wilson, Son, & Aldwinckle	do.	xii.
Alterations, &c., to Casual Ward	do.	do.	do.	xii.
Painting Works, Gore Farm Hospital	Met. Asylums Board	A. & C. Harston	May 26th	xi.
Repairing Roads near Battersea Park	Com. of H. M. Works	*Official*	May 28th	ii.
Flints, Broken Granite, Pipes, &c.	Southgate Local Board	C. G. Lawson	do.	xii.
Public Library and School of Art	Hertford Cor.	W. H. Wilds	do.	xii.
Timber and Firewood	Eton Union	.....	May 29th	ii.
Engineering Works to Laundry, &c.	Gateshead Union	Morton, Newcombe, & Co.	do.	ii.
Paving Streets	Vestry of St. Giles, Camberwell	*Official*	May 30th	xi.
New Buildings, Lambeth Schools	Lambeth Guardians	S. R. J. Smith	do.	xii.
Alterations and Additions to Schools	Beckenham School Brd.	J. Ladds	May 31st	xii.
Engine-House Foundations	Leicester Cor.	J. Gordon	do.	xii.
Turntables	Barry Dock & Rail. Co.	Barry & Brunel	June 1st	xi.
Weigh Bridges	do.	do.	do.	xi.
Moring Buoys	do.	do.	do.	xi.
Additions to School	Lingfield School Board	Langston & Lowdell	June 2nd	xi.
Painting Work and Repairs, Homerton	Met. Asylums Board	Keith D. Young	June 6th	xi.
Cleansing and Watering	Bristol U. S. A.	*Official*	do.	xi.
Dredging	Southampton Harbour B	do.	June 11th	xii.
Steam Ferry Chain Bridge, &c.	King Harry Stm. Ferry C	do.	June 19th	xii.
Erection of New Schools, &c.	School Brd. for London	do.	Not stated	xii.
Hoardings and Shoring of Properties	do.	do.	do.	xii.
Cleansing, Painting, Repairs, &c.	do.	do.	do.	xii.
Painting Barracks, Aldershot	War Department	do.	do.	ii.
Limewhiting, Painting, &c., Portsmouth	do.	do.	do.	ii.

HAMPSTEAD. — For alterations and additions and sanitary improvements and repairs to the Duke of Hamilton public-house, New End, Hampstead (allowing for old materials), for Mr. F. W. Smith. Mr. H. Hardwick Langston, architect, 9, Great James-street, Bedford-row, London. Quantities supplied :—

Nightingale	£2275 0 0
Langmead & Way	2,250 0 0
Patman & Fotheringham	2,197 0 0
Falkner	1,936 0 0
Smith	1,886 0 0
Green	1,879 0 0
Stimpson & Co.	1,730 0 0
Harris & Wardrop	1,598 0 0
Richardson	1,540 0 0
Exton & Burton	1,521 0 0
Ridout	1,370 0 0

HIGHGATE.—For additions to the Board school, North Hill, Highgate, for the Hornsey School Board. Mr. T. Chatfeild Clarke, architect, 63, Bishopsgate-street Within, E.C. :—

J. W. Dixon	£3,909 0 0
Ashby Bros.	3,246 0 0
J. & J. Greenwood	3,224 0 0
B. E. Nightingale	3,203 0 0
C. Lawrance & Sons	3,170 0 0
Colls & Sons	3,134 0 0
J. Woodward	3,122 0 0
Hall, Beddall, & Co.	3,115 0 0
J. H. Thompson	3,054 0 0
Mattock Bros.	3,012 0 0
C. Wall	3,003 0 0
Charles Cox	2,998 0 0

KENSINGTON.—For alterations and improvements at the Mall Tavern, Nos. 71 and 73, Palace Gardens-terrace, Kensington, W. Mr. Charles Jones, architect, 151, Ebury-street, S.W. :—

Dowsing	£170 0 0
Sampson & Churchman	169 0 0
Cole	149 0 0
Foxley & Co.	140 0 0
Coulthard	130 0 0

LEE (Kent).—For repairs, decorations, and sanitary works to private residence. Mr. G. St. Pierre Harris, architect and surveyor, 1, Basinghall street, E.C. :—

Mitchell	£241 15 0
Hudson (accepted)	186 6 9

LEYTON.—For additions and alterations to Grange Park Hall, Leyton, for the Leyton Liberal Club. Mr. E. J. Keates, architect, Leyton :—

	Additions	Alterations	Total
D. Sayer, Leyton	—	—	£630 0
A. Bothwell, Rotherhithe	£545	£75 0	620 0
J. Turner, Manor Park	490	70 0	560 0
J. Basket, Leyton	405	95 10	500 10
W. Griggs, Leytonstone*	300	180 0	480 0

* Accepted.

LEYTONSTONE.—For rebuilding the Crown public-house and three shops for Mr. B. C. Rawe. No quantities :—

A. Hood, 471, Bethnal Green-road*	£5,435 0 0

* Accepted.

LONDON.—For alterations and improvements to Ye Old Burton, Freeman's court, Cheapside, E.C. Mr. Charles Jones, architect, 151, Ebury-street, S.W. :—

C. T. Mills	£197 0 0
T. Coulthard	110 0 0
Gould & Brand	106 0 0

LONDON.—For the erection of eight shops, Fulham-road, Brompton, for Mr. H. G. Smallman. Mr. F. Stocker, architect, Lewisham, S.E. :—

Phillips	£1,795 0 0
Drew & Cadman	1,464 0 0
C. Robson	1,359 0 0
T. Lingfield	1,320 0 0
Beanes Bros.	1,300 0 0
C. Heath	1,150 0 0
T. Pearce	1,148 0 0
W. Loader	1,091 10 0
J. Edmunds	1,089 0 0
G. Flaxman, 87, Southgate-road, N.*	1,069 0 0

* Accepted.

LONDON.—For works at Fitzroy-square. Mr. Lewis Solomon, F.R.I.B.A., architect :—

Sayer	£1,031 0 0
Mitchell	999 0 0
Roberts	987 0 0
Foxley	980 0 0
Lawrence	952 0 0
Barnett	950 0 0
Rayment	935 0 0

LONDON.—For alterations, &c., at 20, Westbourne-grove, W. Mr. W. Whiddington, architect, 71, Queen-street, Cheapside, E.C. :—

Williams & Son	£705 0 0
Clarke & Bracey	669 0 0
Dearing & Son	660 0 0
Lawrence & Sons	588 0 0
Chappell	574 0 0

LONDON.—For alterations, &c., at 284, Edgware road, N.W. Mr. W. Whiddington, architect, 71, Queen-street, Cheapside, E.C. :—

Williams & Son	£688 0 0
Clarke & Bracey	658 0 0
Dearing & Son	610 0 0
Chappell	564 0 0
Lawrence & Sons	561 0 0

LONDON.—For alterations, &c., at 17, Wilton-road, S.W. Mr. W. Whiddington, architect, 71, Queen-street, Cheapside, E.C. :—

Williams & Son	£676 0 0
Clarke & Bracey	647 0 0
Dearing & Son	600 0 0
Chappell	555 0 0
Lawrence & Sons	554 0 0

LONDON.—For repairs and alterations to the Roebuck public-house, Kennington-road, S.E. Mr. Edward Clark, architect. Quantities supplied by the architect :—

T. L. Green	£629 0 0
Patman & Fotheringham	563 0 0
Wilkinson Bros.	540 0 0
Anley	508 0 0
W. Smith	506 0 0
Beale	498 0 0
J. O. Richardson, Albert Works, Peckham (accepted)	477 0 0

LONDON.—For the erection and completion of new offices, Breams-buildings, E.C., for the International News Company. Mr. Christopher M. Shiner, architect. Quantities supplied by the architect :—

J. O. Richardson, Albert Works, Peckham (accepted)	£1,542 0 0

[For full list of tenders see last week's *Builder*, p. 347.]

LONDON.—For rebuilding No. 12, Gilbert-street, W.C. Mr. W. H. Woodroffe, architect :—

G. Parker, Peckham (accepted)	£798 0 0

[No competition.]

LONDON.—For the erection of a school to provide accommodation for 1,000 children on the site in Prospect-terrace, Grays Inn-road (Marylebone C), the plans including the provision of a cookery centre under the school-keeper's house, for the School Board for Londoe. Mr. T. J. Bailey, architect :—

T. L. Green	£15,311 0 0
J. Ford & Sons	14,337 0 0
Brass & Son	14,211 0 0
J. Wells & Son	13,997 7 2
S. & W. Pattison	13,913 8 5
A. R. New & Co.	13,500 0 0
Wall Bros.	12,995 0 0
Stimpson & Co.	12,700 0 0
S. J. Jerrard & Co.	12,573 0 0
C. Cox	12,564 0 0
H. L. Holloway	12,487 0 0
H. Hart	12,436 0 0
W. Johnson	12,337 0 0
Kirk & Randall	12,235 0 0
C. Wall*	12,047 5 11
G. Stephenson	11,893 0 0

* Recommended by the Works' Committee for acceptance.

LONDON.—For the enlargement of the Wornington-road School (Chelsea AB) by 400 places, for the School Board for London. Mr. T. J. Bailey, architect :—

G. Lyford	£9,107 0 0
C. Wall	7,700 0 0
Stimpson & Co.	7,514 0 0
H. L. Holloway	7,285 0 0
W. Johnson*	6,931 0 0

* Recommended by the Works' Committee for acceptance.

LONDON.—For erecting two staircases at the school in St. John's-road, Hoxton (Hackney Y[1]), for the School Board for London. Mr. T. J. Bailey, architect :—

G. R. Earsdon	£980 0 0
T. Linfield	945 0 0
W. Johnson*	750 0 0

* Recommended by the Works' Committee for acceptance.

LONDON. — For erecting additional water-closets, urinals, &c., at the Droop-street (Chelsea AC[2]) School, for the School Board for London. Mr. T. J. Bailey, architect :—

F. T. Chinchen	£230 0 0
Davis Bros.	218 0 0
W. A. Rhodes	185 0 0
T. Bendon*	180 0 0

* Recommended by the Works' Committee for acceptance.

LONDON.—For providing additional lavatory and cloak-room for the infants' department and other works, at the Tennyson-road (West Lambeth RL) School, for the School Board for London. Mr. T. J. Bailey, architect :—

G. R. Earsdon	£425 0 0
W. Johnson	380 0 0
R. Cox	375 0 0
W. F. Russell*	329 0 0

* Recommended by the Works' Committee for acceptance.

LONDON.—For the erection of eight shops at Fulham-road, Brompton, for Mr. F. Stocker :—

Phillips	£1,795 0 0
Drew & Cadman	1,464 0 0
Robson	1,359 0 0
Linfield	1,320 0 0
Beaves Bros.	1,300 0 0
C. Heath	1,150 0 0
T. Pearce	1,148 0 0
Loder	1,091 0 0
Edmunds	1,089 0 0
Flaxman	1,069 0 0

LONDON.—For alterations, &c., required to be done to Shelley's Hotel, Albermarle-street, Piccadilly, W., for Mr. R. H. Barnes. Mr. H. I. Newton, architect, 17, Queen Anne's-gate, Westminster, S.W. :—

H. & E. Lea, Regent's-street*	£396 0 0

* Accepted.

MALDEN.—For the erection of a pair of semi-detached villas at Rodney-road, Malden, Surrey. Mr. Charles Jones, architect, 151, Ebury-street, S.W. Quantities supplied :—

Rosenberg	£1,450 0 0
Mimmack	1,197 0 0
Merredew	1,105 0 0
Street	1,079 0 0
Dover, Wood, & Co.	1,071 0 0
Henley & Co.	993 0 0
Cox	950 0 0
Woodhouse	868 0 0
Hobern Bros.	750 0 0

MANNINGTREE (Essex). — For alterations and additions to the Red Lion, for Messrs. Daniell Bros. Breweries (Limited). Mr. J. W. Start, architect and surveyor, Cups Chambers, Colchester :—

Thos. Tovell Lawford (accepted)	£197 5 0

MONTE CARLO.—For the erection of two villas at Monte Carlo, for Mr. George Colvin White. Messrs. Giles, Gough, & Trollope, architects :—

Isouard (accepted)	£4,500 0 0

MOTTINGHAM (Kent).—For the erection of new stables and coach-house, also store-room and washhouse, for Mr. G. Elliot. Mr. J. Kingwell Cole, architect, 28, Mount-street, Grosvenor-square, W. :—

Wall Bros., Kentish Town	£496 0 0
Kennard Bros., Lewisham	364 0 0
Bryceson Bros., Islington	316 0 0

PINNER (Middlesex).—For additions, &c., to the White Hart, for Messrs. Benskin & Co., of Watford. Mr. C. P. Ayres, Watford, architect :—

W. B. Neal, Watford	£518 0 0
Beechener, Harrow	499 19 0
G. & J. Waterman, Watford	496 0 0
Thos. Turner (Limited), Watford	493 0 0
Brown & Sons, Harefield (accepted)	489 10 0

READING.—For the erection of shop, house, and stabling on the Earley Rise Estate, Reading, for Mr. Wm. J. J. Brinn. Mr. Wm. R. Nicholas, surveyor :—

D. Taylor	£680 0 0
Patience & White	555 0 0
Samuel East	535 0 0
Geo. Lewis	528 0 0
Ruffell Bros.	525 0 0
Geo. Wernham (accepted)	490 0 0

[All of Reading.]

SURBITON.—For constructing the Surbiton outfall sewer works. Mr. S. Mather, C.E. (district surveyor), engineer:—

Pearson & Son	£11,826	0	0
Mowlem & Co.	10,572	0	0
Woodham & Fry	10,373	0	0
L. Bottom	9,625	0	0
T. Rigby	9,398	0	0
Cooke & Co.	8,758	0	0
G. Bell	8,550	0	0
J. W. & J. Neave	8,469	0	0
J. Dickson	8,305	7	2
W. Cunliffe, Dorking (accepted)	8,135	0	0
E. J. Perkins	8,100	0	0
G. Osenton	8,092	0	0
Nelson & Co. (withdrawn)	7,890	0	0
J. G. B. Marshall	7,590	0	0
Small & Sons	6,000	0	0

[Engineer's estimate, £8,260. 5s. 7d.]

STRATFORD.—For alterations to and enlargement of new millinery show rooms, Broadway, Stratford, for Mr. J. R. Roberts. Mr. J. Kingwell Cole, architect, 28, Mount-street, Grosvenor-square, W.:—

Wall Bros., Kentish Town	£219	0	0

STREATHAM. — For the erection of photographic factory, adjoining the Town-hall, Streatham, S.W., for Messrs. Chas. Gearing & Co. Mr. W. T. Holland, architect, 27, Chancery-lane, E.C.:—

G. Napier, Clapham	£1,517	0	0
A. M. Deacon & Co., Lower Norwood (accepted)	1,443	0	0

WALTHAMSTOW.—For building new offices, for Mr. E. Gray, coal merchant, at Hoe-street, Walthamstow, Essex. Mr. W. A. Longmore, architect:—

Barton	£850	0	0
Scott	737	0	0
Fuller	630	0	0
Johnson (accepted)	543	0	0

WATFORD (Herts).—For erecting stabling, &c., at Coniston Lodge, for Mrs. Pearkes. Mr. C. P. Ayres, Watford, architect:—

W. B. Neal, Watford	£259	0	0
Thos. Turner (Limited), Watford	220	0	0
G. & J. Waterman, Watford (accepted)	219	0	0

WESTON-SUPER-MARE. — For the erection of a dwelling-house in Palmer-street, for Mr. W. M. Appleton. Mr. Charles S. Leech, Boulevard, Weston-super-Mare, architect:—

Stephens & Bastow, Bristol	£440	0	0
Cowlin & Son, Bristol	343	0	0
James W. & M. Wilcox	288	0	0
W. W. & M. Haynes	255	0	0
H. W. Forse, Bristol	235	0	0
J. N. W. & M. Shorney (accepted)	235	0	0
J. W. & M. Vowles	230	0	0

WESTON-SUPER-MARE.—For the erection of a depot and chambers on the Boulevard, for Mr. W. M. Appleton. Mr. Charles S. Leech, Boulevard, Weston-super-Mare, architect:—

Stephens & Bastow, Bristol	£1,099	0	0
James W. & M. Wilcox	1,075	0	0
Cowlin & Son, Bristol	975	0	0
H. W. Forse, Bristol	880	0	0
J. W. & M. Vowles	870	0	0
J. N. W. & M. Shorney*	840	0	0
W. W. & M. Haynes	775	0	0

* Accepted subject to slight modification.

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WILLIAM WHITELEY, Westbourne Grove,
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(*Signed*) WILLIAM WHITELEY.

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